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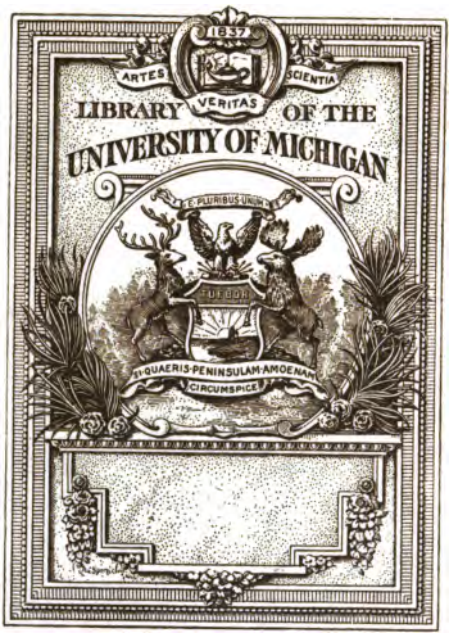
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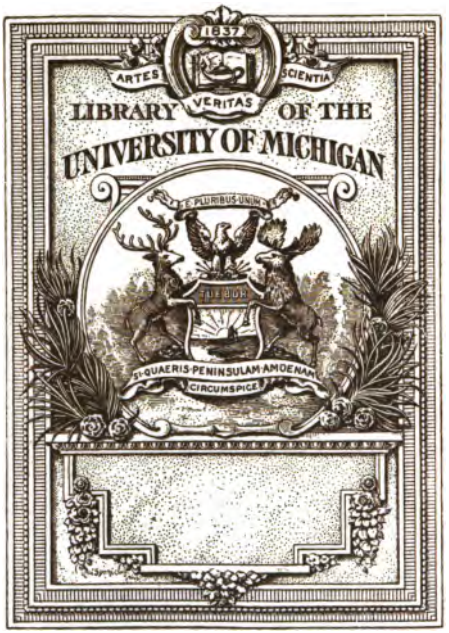
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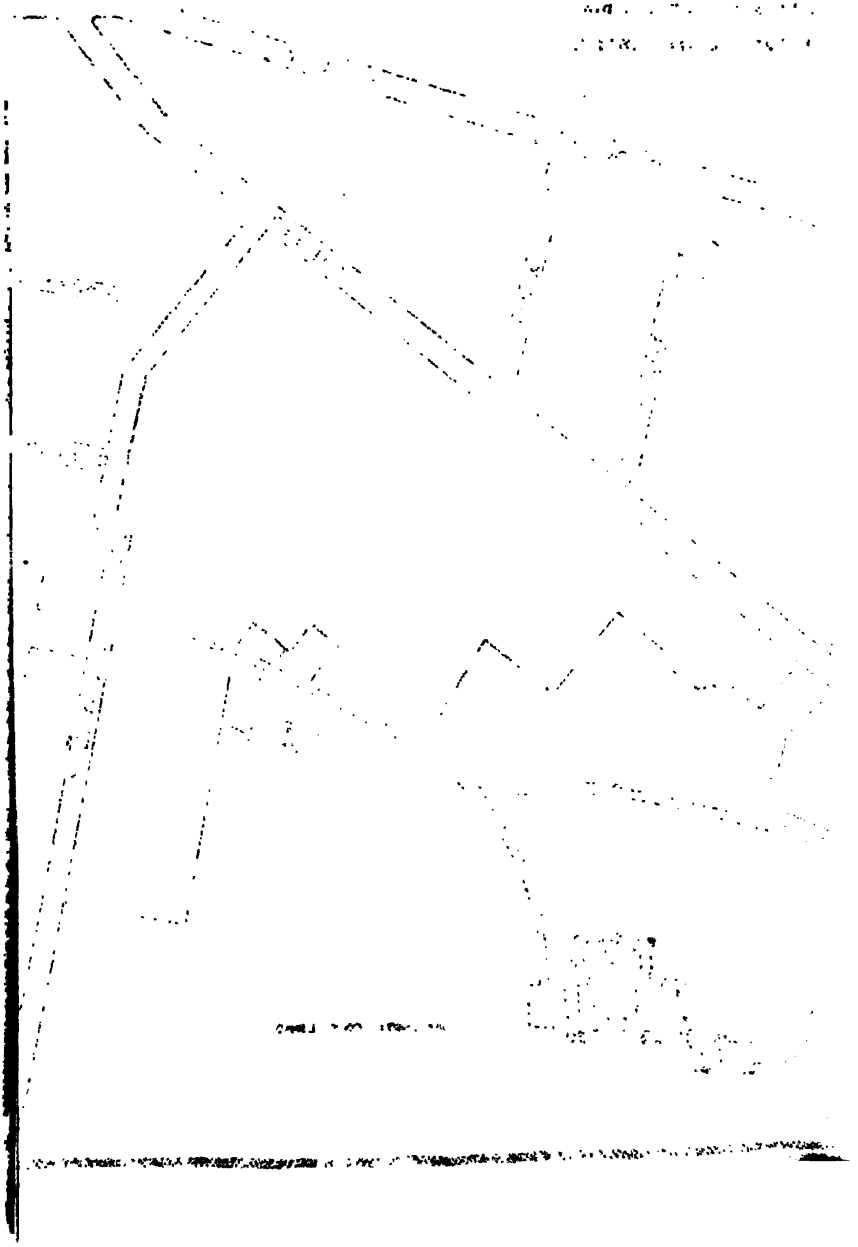

CATALOGUE

OF

PRINCETON UNIVERSITY

ONE HUNDRED AND SIXTY-NINTH YEAR

1915-1916

PUBLISHED BY THE UNIVERSITY
PRINCETON, NEW JERSEY
1915

GENERAL STATEMENT

The courses offered by Princeton University may be classified as: undergraduate courses in arts and sciences; graduate courses in arts and sciences; and technical courses.

The plan of undergraduate liberal studies provides for three distinct courses; first the historic Bachelor of Arts course, in which Greek is required for entrance and forms a part of the curriculum of the first two years; second, the Bachelor of Letters course, a modern variant of the A.B. course, in which Greek is replaced by additional required work in modern languages or sciences, and which is mainly humanistic; and third, the Bachelor of Science course, which is identical with the Bachelor of Letters course in entrance requirements and prescribed studies, but which in the more advanced years is mainly scientific in its trend.

The Graduate School offers advanced and research work in arts and sciences, leading to the degrees of Master of Arts and Doctor of Philosophy.

The technical courses offered are: a four-year undergraduate course in Civil Engineering; and a two-year graduate course in Electrical Engineering.

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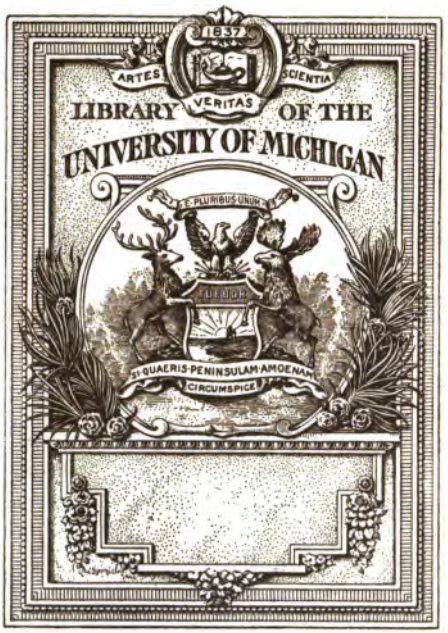
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CALENDAR

1915

Sept. 13–25. Examinations for removal of first and second term conditions.

Sept. 16–20. Examinations for admission, held in Princeton only.

Sept. 22. First term begins.

Sept. 23, 3 P. M. Formal opening exercises.

Sept. 30. Last day for enrolment of Graduate Students at the office of the Dean of the Graduate School.

Oct. 14-16. First part of examination for the degree of Doctor of Philosophy.

Oct. 22. Commemoration Day.

Oct. 28. Meeting of the Board of Trustees.

Nov. 24, 1.30 P. M.–Nov. 29, 10.30 A. M. Thanksgiving recess.

Nov. 25. Thanksgiving Day.

Dec. 13–18. Examinations for removal of entrance conditions.

Dec. 22, 1.30 P. M. Christmas vacation begins.

1916

Jan. 6, 10.30 A. M. Christmas vacation ends.

Jan. 13. Meeting of the Board of Trustees.

Jan. 17. Last day for reporting second term electives.

Jan. 27–Feb. 9. First term examinations.

Feb. 10. Second term begins.

Feb. 22. Washington's Birthday. Class of 1876 Prize Debate.

March 1. Last day for receiving applications for Fellowships and Graduate Scholarships.

March 1, 12 M. Stated Meeting of the Faculty Committee on the Course of Study.

April 10–15. Examinations for removal of conditions in first term senior subjects.

April 13. Meeting of the Board of Trustees.

April 19, 1.30 P. M.–April 25, 10.30 A. M. Spring recess.

May 11–13. First part of examination for the degree of Doctor of Philosophy.

May 18–May 31. Senior final examinations.

May 27–June 9. Examinations of the three lower classes.

June 1. Last day for receiving applications for the Master's degree.

June 10. Junior Orator and Maclean Prize contests.

June 11. Baccalaureate Sunday.

June 12. Commencement meeting of the Board of Trustees. Annual meetings of the Literary Societies. Class Day.

June 13. 169th Annual Commencement. Alumni Trustee election. Alumni luncheon.

June 19-24. College Entrance Board examinations for admission, held simultaneously in Princeton and elsewhere.

Sept. 13-25. Examinations for removal of first and second term conditions.

Sept. 18–21. Examinations for admission, held in Princeton only.

Sept. 26, 3 P. M. Formal opening exercises.

Sept. 30. Last day for enrolment of Graduate Students at the office of the Dean of the Graduate School.

Oct. 12–14. First part of examination for the degree of Doctor of Philosophy.

Oct. 22. Commemoration Day.
Oct. 26. Meeting of the Board of Trustees.
Nov. 29, 1.30 P. M.–Dec. 4, 10.30 A. M. Thanksgiving recess.
Nov. 30. Thanksgiving Day.
Dec. 19, 1.30 P. M. Christmas vacation begins.

1917

Jan. 3, 10.30 A. M. Christmas vacation ends.
Jan. 11. Meeting of the Board of Trustees.
Jan. 22. Last day for reporting second term electives.
Jan. 31–Feb. 13. First term examinations.
Feb. 14. Second term begins.
Feb. 22. Washington's Birthday. Class of 1876 Prize Debate.
March 1. Last day for receiving applications for Fellowships and Graduate Scholarships.
March 7, 12 M. Stated Meeting of the Faculty Committee on the Course of Study.
March 26–31. Examinations for removal of conditions in first term Senior subjects.
April 4, 1.30 P. M.—April 10, 10.30 A. M. Spring recess.
April 12. Meeting of the Board of Trustees.
May 10–12. First part of examination for the degree of Doctor of Philosophy.
May 24–June 6. Senior final examinations.
June 2–June 15. Examinations of the three lower classes.
June 16. Junior Orator and Maclean Prize contests.
June 17. Baccalaureate Sunday.
June 18. Commencement meeting of the Board of Trustees. Annual meetings of the Literary Societies. Class Day.

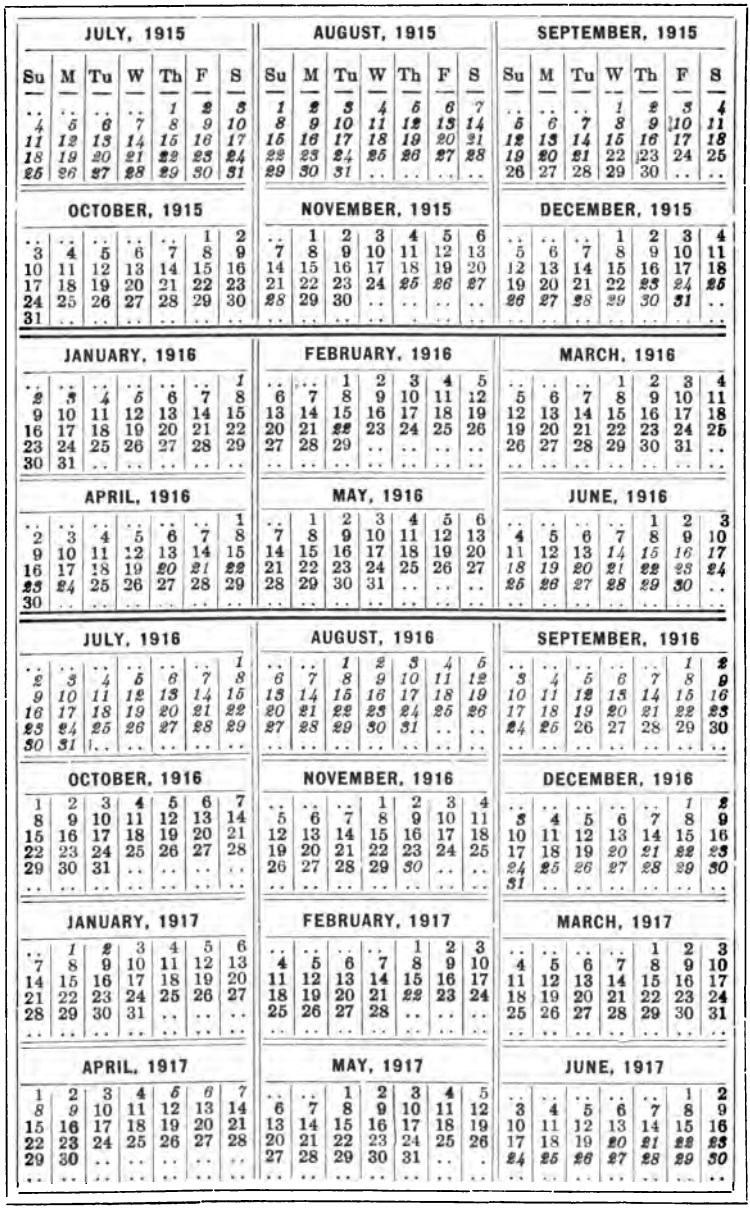
June 19. 170th Annual Commencement. Alumni Trustee election. Alumni luncheon.

June 18–23. College Entrance Board examinations for admission, held simultaneously in Princeton and elsewhere.

Faculty Meetings, 1915-1916

All meetings but the first at 5 P. M.

University Faculty: September 23, October 4, 18, November 1, 15, December 6, 20, January 17, February 7, 21, March 6, 20, April 3, 17, May 1, 15, June 5.



JULY, 1915

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SEPTEMBER, 1915

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Days upon which the University is not in session are *italicized*.

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* Died September 21, 1915.

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(Term expires June, 1920)

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Supervising Architect

RALPH ADAMS CRAM, LITT.D.

Counsel

FRANCIS SPEIR, A.M., LL.B.

Consulting Landscape Gardener

MRS. BEATRIX FARRAND

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Committee on Faculty Minutes: REV. DR. FRAZER, Chairman; PRESIDENT HIBBEN.

The stated meetings of the Board of Trustees are held on the fourth Thursday in October, on the second Thursdays of January and April, and on the Monday before Commencement.

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Prospect

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Conference: PROFESSOR ABBOTT, Chairman; PROFESSORS CAPPS, CONKLIN, KEMMERER, KEMP SMITH, TROWBRIDGE (Secretary).

Preceptorial: PROFESSOR COLLINS, Chairman; PROFESSORS ADRIANCE, (Secretary), HARPER, R. B. C. JOHNSON, MCCABE, MCCLELLAN, ROOT, SHIPMAN, D. R. STUART.

COMMITTEE ON SANITATION

(Advisory to the Trustees' Committee on Grounds and Buildings.)

PROFESSOR RAYCROFT, Chairman; DR. FINNEY, PROFESSOR CONKLIN, PROFESSOR LOOMIS, DR. PATON, MR. WINTRINGER (Secretary).

PART II

HISTORY AND GOVERNMENT OF THE UNIVERSITY

HISTORY AND GOVERNMENT OF THE UNIVERSITY

At the beginning of the eighteenth century there were but three institutions of higher learning in the colonies: Harvard and Yale in New England and the College of William and Mary in Virginia.

In 1739 a movement was set on foot by the Synod of Philadelphia to establish a college in the Middle Colonies and a committee was appointed to carry out the plan. But, the time not being propitious, the project was laid aside without any material progress. In the meantime the Log College, founded in 1726 near the Forks of Neshaminy, Pennsylvania, by the Rev. William Tennent, Sr., a graduate of Edinburgh University, and a member of the Synod of Philadelphia, had been successfully conducted as a school for candidates for the ministry. Mr. Tennent died in 1746, and at that time the project for the erection of a college, to rank with Harvard, Yale, and William and Mary, was again taken up by its adherents who had withdrawn from the Synod of Philadelphia and had formed the Synod of New York. The project was successfully carried out and a charter was granted to the applicants, passing the great seal of the Province of New Jersey on October 22, 1746, attested by Acting Governor John Hamilton, of His Majesty's Council. The original trustees named in this instrument were Messrs. William Smith, Peter Van Brugh Livingston, and William Peartree Smith, and the Reverends Jonathan Dickinson, John Pierson, Ebenezer Pemberton, and Aaron Burr. By the terms of the charter these seven trustees were empowered to choose five others

to complete the Board; and, knowing the hearty favor with which the friends of the Log College viewed the movement, they elected the Reverends Gilbert Tennent, William Tennent, Jr., Samuel Blair, and Samuel Finley, graduates of the Log College, and Richard Treat, graduate of Yale College, who lived at Abington, near the Log College, to fill the vacancies.

The charter of 1746 is not of record, although a memorandum of its grant appears among the records of charters and commissions in the office of the Secretary of State at Trenton, New Jersey, and its substance is set forth in an advertisement which appeared in the *Pennsylvania Gazette* of August 13, 1747.

In the summer of 1747 Jonathan Belcher, Esq., the newly appointed Governor of New Jersey, arrived in the Colony, and at once manifested the deepest interest in the infant college. The original charter not being entirely satisfactory, Governor Belcher granted a second, which passed the seal of the Province on September 14, 1748. This second charter had been sought by the original Trustees in order to increase their number, to give other religious communions a share in the administration, and to make the lay trustees equal in number to those who were clergymen. Numerous doubts, besides, had been expressed as to the validity of the first charter, which had been granted by the President of the Council, then acting as governor, and which had never been recorded *verbatim* in the records of the Secretary of State. The interest taken by Governor Belcher in the affairs of the institution and the wise forethought of its founders, by the execution of the second and more comprehensive document, effectually removed all doubts as to the validity of their powers. After the Revolution this charter was confirmed and renewed by the Legislature of the State of New Jersey.

Upon the granting of the first charter measures had at once been taken to open the College, and on February 2, 1747, a notice appeared in the *New York Gazette Revived in the Weekly Post Boy,* notifying "any Person or Persons who are qualified by preparatory Learning for Admission, that some time in May next at latest they may be there admitted to an Academic Education." On April 20, the following notice was given through the same journal:

> This is to inform the Publick, That the Trustees of the College of New-Jersey, have appointed the Reverend Mr. Jonathan Dickinson, President of the said College; which will be opened the fourth week in May next, at Elizabeth-Town: At which Time and Place, all Persons suitably qualified, may be admitted to an Academic Education.

Hatfield, in his *History of Elizabeth,* states that "the first term of the College of New Jersey was opened at Mr. Dickinson's house, on the south side of the old Rahway road, directly west of Race street." President Dickinson's term of administration was brief, commencing in April, 1747, and closing with his death on October 7, 1747. Upon his decease the Rev. Aaron Burr assumed charge of the College, which was removed from Elizabethtown to Newark. To Mr. Burr belongs the credit for the organization of the curriculum, the ceremonies of the College, and its discipline.

The first Commencement was held at Newark, November 9, 1748, and was celebrated with much ceremony. The *New York Gazette Revived in the Weekly Post Boy* published an account of the proceedings of this Commencement in detail, together with the inaugural address of President Burr, in which address he emphasized broad and liberal education as the firmest foundation of the Commonwealth, and concluded with a eulogy of the generosity of their

patron, Governor Belcher. , The graduating class numbered six.

A set of laws for the government of the College, probably prepared by Burr, were adopted by the Trustees at this time. One, relating to the admission of students, gives a fair idea of the entrance requirements of the period:

> 1. None may be expected to be admitted into College but such as being examined by the President and Tutors shall be found able to render Virgil and Tully's Orations into English; and to turn English into true and grammatical Latin; and to be so well acquainted with the Greek as to render any part of the four Evangelists in that language into Latin or English; and to give the grammatical connection of the words.

The Trustees also announced "That the annual Commencement for the future be on the last Wednesday of September, and that the next Commencement be held at New Brunswick."

The need of funds being urgent, application was made to the Provincial Assembly for authority to raise by a lottery a sum not exceeding eight thousand dollars; but the request was denied and the lottery was transferred to Philadelphia. Several years later, in 1761-2, the Assembly granted this privilege, as did also the General Court of Connecticut (1753-4).

In casting about for a desirable site for the location of the institution, the situation of Princeton at once commended itself. Not only was it midway between the cities of New York and Philadelphia and its one street a part of the great highway between them, but it occupied a central position upon rising ground, insuring healthful surroundings, on the line dividing East and West Jersey. New Brunswick, because of its greater size and somewhat similar though not so favorable location, claimed the first consider-

ation; but the Trustees, well aware of the pecuniary value of a college to any town in which it should be placed, were desirous of securing the full advantage accruing from this fact, and voted, September 26, 1750:

That a proposal Be made to the Towns of Brunswick and Prince-Town to try what Sum of Money They can Raise for Building of the College by the next meeting that the trustees may Be Better able to Judge in Which of these places to fix the place of the College.

At the next meeting of the Board, held in Trenton, May 15, 1751, the following resolution was adopted:

Voted that New Brunswick be ye Place for the Building of the College, provided the Inhabitants of sd. Place agree with the Trustees upon the following Terms, Viz. that they secure to the College a Thousand Pounds proc. Money, ten acres of land contiguous to the College, and two hundred acres of Wood Land, the furthest Part of it not to be more than three Miles distant from the Town; or such a Quantity of Wood Land as the Trustees of the College shall judge Equivalent to two hundred Acres of Wood Land offered to be given by some gentleman in Prince Town.

Mr. Jonathan Sergeant, the Treasurer, was ordered to view the land at Princeton and New Brunswick and report to the Board. The citizens of the latter place do not appear to have been eager to accept the terms imposed by the Board, and failing to comply by the time allowed, it was voted, September 27, 1752:

That the College be fixed at Princeton upon Condition that the Inhabitants of sd. Place secure to the Trustees that two Hundred Acres of Woodland, and that ten Acres of clear'd Land which Mr. Sergeant view'd; and also one thousand Pounds proc. Money.

This action finally settled the question of location, and, the citizens of the town having complied with the terms proposed by the Board, steps were at once taken for the erection of the first college building. The plans drawn by Dr. Shippen and Robert Smith were accepted by the Trustees. These, according to the minutes of July 22, 1754, specified "That the College be built of Brick if good Brick can be made at Princeton & if Sand can be got reasonably cheap. That it be three story high & without any Cellar"; but at a subsequent meeting it was decided that stone be used for the College edifice. The land for this building was given by Nathaniel Fitz Randolph, who also donated twenty pounds currency. Ground was broken on the 29th of July, 1754, under the direction of Joseph Morrow, and soon afterward the corner-stone was laid, in the presence of Thomas Leonard, John Stockton, John Horner, William Worth (stone mason), Nathaniel Fitz Randolph, and many others. It was the desire of the Trustees to name the new building after the patron and benefactor of the College, Governor Belcher, but with rare modesty he declined the honor, requesting the Board to call the edifice "Nassau Hall," as expressing "the Honour we retain, in this remote Part of the Globe to the immortal Memory of the Glorious King William the 3d., who was a Branch of the illustrious House of NASSAU." This request was complied with in the following terms:

Whereas his Excellency Govr. Belcher has signified to us, his declining to have the Edifice we have lately erected at Princeton for the Use and Service of New-Jersey College to be called after his Name, and has desired and for Good Reasons that it should be call'd after the Name of the illustrious House of NASSAU; It is therefore voted, and is hereby ordered that the sd. Edifice be in all Time to come called and be known by the Name of NASSAU HALL.

The College was completed and the students removed from Newark to Princeton in the fall of 1756. The expenses incurred consequent upon the erection of so considerable a building, then the largest structure of its kind in the colonies, had prompted the Board, in 1753, to send the Rev. Gilbert Tennent and the Rev. Samuel Davies to Great Britain to solicit funds in behalf of the institution. This undertaking was successful, and the money acquired sufficient to defray in part the cost of the building.

The death of President Burr occurred September 24, 1757, and three days later the Trustees at their stated meeting elected the Rev. Jonathan Edwards, of Stockbridge, Massachusetts, to fill the vacancy.

President Edwards arrived at Princeton on the 16th of February, 1758, and assumed the duties of his office. One week later he was inoculated for small-pox and died on the 22nd of March. On the 9th of May, 1759, the Rev. Samuel Davies was elected to the presidency and on the 26th of July entered upon the duties of his office. He died February 4, 1761.

During his administration there were no material changes in the course of instruction; more attention, however, was given to the cultivation of English composition and elocution. President Davies gave much of his time to the building up of a suitable library for the College.

The Rev. Samuel Finley had been proposed for the presidency at the meeting at which Mr. Davies was elected, and upon the death of the latter he was unanimously chosen as his successor. His administration lasted until the 17th of July, 1766, the date of his death. During this period the course of instruction remained the same as in former years, and the College maintained a steady growth.

On the 19th of November, 1766, the Trustees elected to the presidency, John Witherspoon, D.D., LL.D., of Paisley,

Scotland. Dr. Witherspoon at first declined; a year later, however, he accepted a reëlection and became sixth President of the College of New Jersey.

Dr. Witherspoon arrived in America during the summer of 1768 and was inaugurated on the 17th of August. The shadow of the approaching Revolution was already spreading over the Colonies, and among the students of this period (1770) were many who became leading figures in the great struggle and in the solution of the constitutional problem which at the close of the war offered itself to every thoughtful mind. James Madison, Aaron Burr, Gunning Bedford, William Bradford, Philip Freneau, Hugh Henry Brackenridge, Henry Lee, Morgan Lewis, and Henry Brockholst Livingston were some of the pupils over whom Witherspoon was called to preside.

For nearly eight years the varying fortunes of the Revolution told heavily on the College. The course of instruction was interrupted by the presence of both armies, Nassau Hall was wrecked, the library scattered and destroyed, and the philosophical apparatus, including the famous orrery made by David Rittenhouse of Philadelphia, ruined. During this period but one Commencement was omitted, that of 1777. The members of the graduating class of that year, seven in number, received their degrees a few months later and are accounted graduates for that year.

College orders were regularly resumed after the enemy had abandoned their occupation of the State, although, according to President Witherspoon's report, given through the press in 1779, the number of students did not at any time exceed ten.

The impoverished condition of the country, consequent upon the war of the Revolution, laid a heavy burden upon the shoulders of the President and Trustees. Great credit is

due to the perseverance and untiring energy displayed by President Witherspoon throughout his administration in meeting and overcoming these difficulties. He died November 15, 1794.

His successor, Samuel Stanhope Smith, D.D., LL.D., a graduate of the College in the Class of 1769, was elected to the presidency May 6, 1795. During his term of office the course of instruction was broadened and the curriculum enlarged. Among the most important changes was the establishment of a professorship in chemistry. This was the first provision for regular instruction in this branch of science made by an American college. A grant of six hundred pounds per annum for three years was secured from the Legislature of the State, to reimburse the College for the damage sustained to its buildings, library, and philosophical apparatus during the Revolution. This appropriation, however, was not equal by a thousand dollars to the expense of repairing the philosophical apparatus.

On the 6th of March, 1802, Nassau Hall was destroyed, save for the outer walls, by fire, together with almost the entire library and part of the philosophical apparatus. Steps were at once taken to raise funds wherewith to repair the loss, and an elaborate address "To the Inhabitants of the United States" was issued by the Trustees. In this appeal they were so far successful that by the 4th of April, 1804, more than forty-four thousand dollars had been collected. The rebuilding of Nassau Hall was completed during the summer of 1804.

Dr. Smith resigned the presidency August 14, 1812, and was succeeded by Ashbel Green, D.D., LL.D., a graduate of the College (1783). Dr. Green tendered his resignation to the Trustees September 25, 1822. During this period of ten years the institution maintained a steady growth, both in the number of students and in the income from its invested funds.

On the 26th of September, 1822, the Trustees elected to the presidency the Rev. John Holt Rice, of Richmond, Virginia. Dr. Rice, being in poor health, declined and the duties of the office for a time devolved upon the Vice-President, Philip Lindsley.

James Carnahan, D.D., LL.D., of the Class of 1800, was elected on the 12th of May, 1823, and was inaugurated President on August 6th of that year. President Carnahan's term of office was one of marked increase in the growth and development of the College. During his administration of thirty-one years, sixteen hundred and thirty-four students were graduated from the institution; the teaching corps was increased from two professors and two tutors, in 1823, to six professors, two assistant professors, and four tutors in 1854, and not less than seventy-five thousand dollars was expended in the erection of new buildings, the purchase of apparatus and books, and the improvement of the College grounds.

A department of law was established in 1846, under the direction of the Hon. Joseph C. Hornblower, Chief Justice of the Supreme Court of New Jersey, James S. Green, and Richard S. Field, Attorneys. The degree of Bachelor of Laws was given for two years' resident study. There being no funds available for the support of this department, the lectures were abandoned in 1852. During this period the degree of Bachelor of Laws was conferred upon seven persons.

President Carnahan resigned in 1853, but upon the request of the Board retained the office until the Commencement of 1854.

John Maclean, D.D., LL.D., of the Class of 1816, was elected to the presidency December 20, 1853, and inaugurated Wednesday, June 28, 1854. Dr. Maclean resigned December 11, 1867, retaining the office until the Commence-

ment of 1868. During this period the number of students increased from 247 in 1854, to 281 in 1868. The Civil War deprived the institution of a large proportion of its students and is largely responsible for the small increase. Four new professorships were established, having a total endowment of $195,000, and the teaching corps increased to twenty. The movement to establish free scholarships in the College, undertaken during the last years of President Carnahan's administration, was successful in obtaining $60,000. The interior of Nassau Hall was destroyed by fire for the second time on the night of the 10th of March, 1855. The damage to the building, the walls alone standing, amounted to above $50,000, upon which there was an insurance of $12,000. The work of rebuilding Nassau Hall was completed during the spring of 1860.

James McCosh, D.D., LL.D., Litt.D., of Queen's College, Belfast, was elected President of the College on the 29th of April, 1868. Dr. McCosh resigned the office in 1888, after an administration of twenty years. Under President McCosh the number of students increased from 281 in 1868, to 603 in 1887. Gifts amounting to upwards of three millions of dollars were contributed during this period, of which one million was expended in the erection of fourteen buildings. Among the more important changes in the curriculum were the introduction of the system of elective studies (1870); the founding of the John C. Green School of Science (1873) offering courses leading to the degrees of Bachelor of Science, Civil Engineer, and Master of Science; and the establishment of the Graduate Department (1877). The Faculty was enlarged from ten professors and seven tutors in 1868, to thirty-one professors, four assistant professors, and five tutors and instructors—a total of forty—in 1888.

Francis Landey Patton, D.D., LL.D., twelfth President

of the College of New Jersey, was elected February 9, 1888, and inaugurated June 20, 1888. President Patton resigned the office June 9, 1902. During his administration of fourteen years the student enrolment increased from 603 in 1888, to 1354 in 1902. The Faculty numbered forty in 1888; in 1902 one hundred. Seventeen new buildings were erected during President Patton's incumbency.

In October, 1896, the one hundred and fiftieth anniversary of the signing of the First Charter of the College of New Jersey was celebrated; on the anniversary day, October 22, 1896, the title of Princeton University was assumed.

In 1900 a plan for Alumni Representation in the Board of Trustees was adopted. By this plan the Board of Trustees was enlarged by the addition of five members to be known as Alumni Trustees, one to be elected yearly, and to be eligible for reelection, and who hold office for a term of five years from and after their election. No one is eligible for election as an Alumni Trustee except a graduate of Princeton University of not less than ten years' standing. All graduates of Princeton University of not less than three years' standing, who have paid the enrolment fee of one dollar, are entitled to nominate and vote for Alumni Trustees at any election. If, however, during a period of five consecutive years, an enrolled graduate shall not have availed himself of the privilege of nominating or voting for Alumni Trustees, his name shall be removed from the list, and it can be restored again only upon his application and the payment of another enrolment fee. The annual election is held in Princeton on Commencement day.

Woodrow Wilson, Ph.D., Litt.D., LL.D., of the Class of 1879, was elected to the presidency in June 1902, and inaugurated on the 25th of October of the same year. President Wilson resigned October 20, 1910, having accepted

the Democratic nomination for Governor of New Jersey. During his administration the undergraduate course of study was thoroughly revised; the Preceptorial System of instruction was established, thereby adding about fifty members to the teaching staff; the Faculty was further strengthened by the addition of a considerable number of professors distinguished in their several departments of study; the facilities of the University for both classroom and laboratory work were greatly increased by the building and equipment of a handsome recitation hall and of unusually large and adequate laboratories for physics, biology, and geology; several new dormitories were erected; and large endowments were received for the development of the Graduate School.

On October 20, 1910, the Hon. John Aikman Stewart, LL.D., Senior Trustee, was appointed President *pro tempore,* by resolution of the Board of Trustees. President Stewart held the office until the election of President Hibben, January 11, 1912. During his administration he was greatly aided in the performance of the academic duties of the presidency by Henry Burchard Fine, Ph.D., LL.D., Dean of the Faculty.

John Grier Hibben, Ph.D., LL.D., of the Class of 1882, was elected President of the University on January 11, 1912, and formally inaugurated on May 11 of the same year.

The title of the Corporation as now constituted is The Trustees of Princeton University.

FORM OF BEQUEST

I give and bequeath to the Trustees of Princeton University, located at Princeton, in the State of New Jersey, the sum of.....dollars, the same to be free from succession tax, if any should exist thereon, and to be used as the Board of Trustees shall determine (or, in the case of a special gift, stating the terms of the gift).

PART III

TERMS OF ADMISSION

TERMS OF ADMISSION TO PRINCETON UNIVERSITY

ENTRANCE EXAMINATIONS

Candidates for admission to the freshman class of Princeton University presenting themselves for examination in June, whether under the old or the alternative method, will take the examinations of the College Entrance Examination Board. Examination certificates issued by the Board will be accepted in place of the former Princeton June entrance examinations in so far as the certificates presented correspond to the requirements for admission to the several courses as prescribed below. Candidates offering such certificates are required to submit therewith the testimonials as to character and general fitness described in a subsequent paragraph. The latter testimonial shall state definitely the amount of work done in each subject offered for examination.

A list of places at which examinations are to be held by the College Entrance Examination Board in June will be published about March 1. Requests that examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1.

Applications for the Board's examinations should be made in accordance with the instructions printed below.

In September entrance examinations for admission to Princeton University will be held, as heretofore, in Princeton *only* in accordance with the schedule printed on page 71.

Each candidate admitted to any class in the University shall pay an admission fee of five dollars.

COLLEGE ENTRANCE BOARD EXAMINATIONS

The Old Method of Admission

All applications for examinations must be addressed to the Secretary of the College Entrance Examination Board, Hamilton Hall, Post Office Station H, New York, N. Y., and must be made upon a blank form to be obtained upon application to the Secretary of the Board.

If the application is received sufficiently early, the examination fee will be $5.00 for candidates examined in the United States and Canada and $15.00 for candidates examined outside of the United States and Canada. The fee should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

The applications and fees of candidates who wish to be examined outside of the United States and Canada must reach the Secretary of the Board at least five weeks in advance of the first day of the examinations, that is, on or before Monday, May 15, 1916.

The applications and fees of candidates who wish to be examined in the United States at points west of the Mississippi River, or in Canada, must be received at least three weeks in advance of the examinations, that is, on or before Monday, May 29, 1916.

The applications and fees of candidates who wish to be examined in the United States at points east of the Mississippi River or on the Mississippi River must be received at least two weeks in advance of the first day of the examinations, that is, on or before Monday, June 5, 1916.

When the candidate has failed to obtain the required blank form of application for examination, the usual examination fee will be accepted if the fee arrive not later than the specified date accompanied by a memorandum contain-

ing the name and address of the candidate, the examination centre at which he wishes to present himself, and a list of all the subjects in which he may have occasion to take the Board's examinations.

Applications received later than the dates named will be accepted when it is possible to arrange for the admission of the candidates concerned, but only upon payment of $5.00 in addition to the usual fee.

In June 1916 the schedule of examinations will be as follows:

Monday—June 19

9 A. M. Mathematics *A1*, Algebra to Quadratics
Mathematics *A2*, Quadratics and beyond
2 P. M. Mathematics *C*, Plane Geometry
Mathematics *D*, Solid Geometry

Tuesday—June 20

9 A. M. English *1*, Grammar and Composition
English *2*, Literature
2 P. M. Mathematics *F*, Plane Trigonometry

Wednesday—June 21

9 A. M. Latin *2*, Elementary Prose Composition
Latin *4*, Cicero's *Manilian Law* and *Archias*, and Sight Translation of Prose
2 P. M. Latin *3*, Second Year Latin
Latin *5*, Vergil's *Æneid*, I, II, and IV or VI, and Sight Translation of Poetry

Thursday—June 22

9 A. M. French *A*, Elementary (First and second years)
French *B*, Intermediate (Third year)
Spanish *A*, Elementary (First and second years)
2 P. M. German *A*, Elementary (First and second years)
German *B*, Intermediate (Third year)

Friday—June 23

9 A. M. Chemistry
Physics
2 P. M. History *A*, Ancient
History *B*, Mediaeval and Modern
History *C*, English
History *D*, American

Saturday—June 24

9 A. M. Greek *A1*, Grammar
Greek *A2*, Elementary Composition
Greek *BG*, Xenophon and Sight Translation
2 P. M. Greek *C*, Homer's Iliad, I-III

The Alternative Method of Admission

Candidates who wish to take the Board's comprehensive examinations under the Alternative Method of Admission must make application on a special blank form to be obtained from the Secretary of the College Entrance Examination Board, Hamilton Hall, Post Office Station H, New York, N. Y. No application to take these examinations can be entertained by the College Entrance Examination Board unless the candidate has previously obtained permission from the Committee on Admission of Princeton University. In this permission must be specified the particular examinations to be taken by the candidate. In view of the fact that the candidate's application to the College Entrance Examination Board must reach the Secretary of the Board on or before a certain specified date, it will be necessary for the candidate to obtain this permission from the college at a still earlier date.

If the application is received by the College Entrance Examination Board sufficiently early, the examination fee will be $5.00 for candidates examined in the United States

and Canada and $15.00 for candidates examined outside the United States and Canada. The fee should be remitted by postal order, express order, or draft on New York, payable to the College Entrance Examination Board.

The application and fees of candidates who wish to be examined outside of the United States and Canada must reach the Secretary of the Board at least five weeks in advance of the first day of the examinations, that is, on or before Monday, May 15, 1916.

The applications and fees of candidates who wish to be examined in the United States at points west of the Mississippi River, or in Canada, must be received at least three weeks in advance of the examinations, that is, on or before Monday, May 29, 1916.

The applications and fees of candidates who wish to be examined in the United States at points east of the Mississippi River or on the Mississippi River must be received at least two weeks in advance of the first day of the examinations, that is, on or before Monday, June 5, 1916.

Applications received later than the dates named will be accepted when it is possible to arrange for the admission of the candidates concerned, but only upon payment of $5.00 in addition to the usual fee.

The schedule of comprehensive examinations for candidates under the Alternative Method of Admission in June 1916 will be as follows:

Monday—June 19

9 A. M.-12 M. Mathematics

Tuesday—June 20

9 A. M.-12 M. English

Wednesday—June 21

9 A. M.-12 M. Latin

Thursday—June 22

9 A. M.-12 M. French
2 P. M.-5 P. M. German.

Friday—June 23

9 A. M.-12 M. Physics
Chemistry
2 P. M.-5 P. M. History

Saturday—June 24

9 A. M.-12 M. Greek

PARTIAL LIST OF EXAMINATION CENTERS FOR JUNE, 1916

The following list, which is given to forestall a considerable number of inquiries, contains some of the more important places at which the Board will hold examinations in June, 1916:

ALABAMA, Birmingham.
ARKANSAS, Little Rock.
CALIFORNIA, Berkeley.
COLORADO, Denver.
CONNECTICUT, Bridgeport, Danbury, Hartford, Middletown, New Haven, Norwich, South Norwalk, Stamford.
DELAWARE, Wilmington.
DISTRICT OF COLUMBIA, Washington.
FLORIDA, Jacksonville.
GEORGIA, Atlanta.
IDAHO, Boise.
ILLINOIS, Chicago.
INDIANA, Indianapolis.
IOWA, Davenport, Dubuque.
KENTUCKY, Louisville.
LOUISIANA, New Orleans.
MAINE, Portland.
MARYLAND, Baltimore.

MASSACHUSETTS, Amherst, Beverly, Boston, Cambridge, Fitchburg, Great Barrington, New Bedford, Newburyport, Northampton, South Hadley, Springfield, Tufts College, Wellesley, Williamstown, Worcester.
MICHIGAN, Detroit.
MINNESOTA, Duluth, Minneapolis.
MISSOURI, Kansas City, St. Joseph, St. Louis.
MONTANA, Butte, Helena.
NEBRASKA, Omaha.
NEW HAMPSHIRE, Concord, Hanover, Manchester.
NEW JERSEY, Asbury Park, Newark, New Brunswick, Passaic, Plainfield, Princeton, Trenton.
NEW YORK, Albany, Brooklyn, Buffalo, Ithaca, New York, Poughkeepsie, Rochester, Syracuse, Utica.
NORTH CAROLINA, Asheville.
OHIO, Cincinnati, Cleveland, Columbus, Dayton, Toledo, Youngstown.
OREGON, Portland.
PENNSYLVANIA, Harrisburg, Philadelphia, Pittsburgh, Scranton.
RHODE ISLAND, Newport, Providence, Westerly.
TENNESSEE, Memphis.
TEXAS, Austin, Dallas.
UTAH, Salt Lake City.
VERMONT, Bellows Falls, Burlington.
VIRGINIA, Richmond, Roanoke.
WASHINGTON, Seattle, Spokane.
WISCONSIN, Milwaukee.
HAWAII, Honolulu.

SEPTEMBER EXAMINATIONS IN PRINCETON ONLY

Examination Fee

Each candidate who proposes to take the Princeton entrance examinations in September should send to the Registrar before September 1:

(a) A statement containing his full name and the name and address of his parent, or guardian, and of his school. If he has taken preliminary examinations, this should be stated.

(b) A fee of five dollars, either by money order or cheque payable to *Princeton University*. In return he will receive a receipt from the Registrar which he must show to the examiner when he registers at the examination.

Candidates who have not sent this statement and fee may be admitted to the examinations; in such cases the reports of the results of the examinations may be delayed, and in no case will a report be sent until the fee is received.

Candidates taking examinations in different years shall pay the fee each year.

In September Princeton University will use Comprehensive Examination Papers prepared by the College Entrance Examination Board for candidates under the *old* as well as under the *alternative* method of admission.

NOTE.—By a *Comprehensive Examination Paper* is meant:

1. One that is adapted to such variety of school instruction as exists in the several subjects—that is, they must not prescribe methods but must recognize the general principle that the schools determine how they shall teach a subject and that the college tests results or power.

2. One that is adapted to the different stages of training in the subjects in which they are set—that is, they must give boys opportunities to show their power, whether they have had the minimum or the maximum amount of training given in school. For example, the papers in Latin should be so drawn up as to enable a boy who has had only two years of Latin to show that he has as much command over the language as can be expected from that amount of training, and they must be similarly useful for the boy who has had three or four years of Latin.

In September 1916 the order of examinations will be as follows:

Monday, September 18, 1916

8.30 A. M.– 9.00 A. M. Registration of all candidates.
9.00 A. M.–12.00 M. English
2.00 P. M.– 5.00 P. M. Physics
Chemistry

Tuesday, September 19, 1916

9.00 A. M.–12.00 M. Latin
2.00 P. M.– 5.00 P. M. French
Spanish

Wednesday, September 20, 1916

9.00 A. M.–12.00 M. Mathematics
2.00 P. M.– 5.00 P. M. German

Thursday, September 21, 1916

9.00 A. M.–12.00 M. History
2.00 P. M.– 5.00 P. M. Greek

All candidates are expected to appear promptly at the time set for an examination. No candidate will be allowed to enter an examination later than a quarter of an hour after the scheduled time; and no candidate who has seen a question paper will be allowed to leave the examination until half an hour shall have elapsed.

Applicants who have any conditions or other deficiencies from the June examinations are required to remove them at the September entrance examinations.

Examinations at other than the specified times are granted only under very exceptional circumstances. An applicant for examination at a special time must present a satisfactory reason and obtain permission by writing to the

Registrar and must pay into the treasury a fee of $10 for every subject, or part thereof, in which an examination is set. No special examinations are held outside of Princeton.

Testimonials as to Character

All candidates for admission to any class, or as special students, must bring with them satisfactory testimonials of good moral character, preferably from their last instructor; and if the candidate has been a member of another college, university, or similar institution, he must produce a letter of honorable dismissal from the President or Faculty of his former institution.

No candidate is admitted into the undergraduate department in regular class standing without examination and a vote of the Faculty.

METHODS OF ADMISSION

For admission to the freshman class a candidate must satisfy the requirements of one of the two methods described below:

I. OLD METHOD OF ADMISSION OPEN TO ALL CANDIDATES

(1) A candidate must pass satisfactorily written examinations in all of the subjects required for admission, as enumerated on pages 80 to 83 of this catalogue. He may, however, be admitted conditionally if he is deficient in a small part only of the subjects required.

(2) Each applicant for admission should be provided with a statement, signed by his teacher, as to his fitness to be examined in each of the subjects which he offers. This statement is for the information of the examiners, and is in no sense an admission certificate. Blank forms may be obtained from the Registrar.

[Preliminary Examination]

(3) At the examinations in June and September, candidates for admission to the freshman class at some later time are admitted to examination in a portion of the subjects required for entrance. Each candidate for preliminary examination must present a certificate, signed by his teacher, stating that he is prepared in each of the subjects which he may offer. *No credit will be given for a preliminary examination in any subject in which the candidate is not so certified.*

II. ALTERNATIVE METHOD OF ADMISSION

In addition to the old method of entrance to the freshman class in courses leading to the bachelor's degrees as well as in the course leading to the degree of Civil Engineer, the following method is open to candidates who have previously obtained permission from the Committee on Entrance.

A candidate for admission under this method may send to the Registrar of Princeton University before May 15 or September 1 a detailed statement, signed by the principal of his school, which shall show the course of study which he has pursued during the past four years and the degree of proficiency which he has attained in each subject. This statement may be submitted on a blank sent upon request by the Registrar, or in some form convenient to the school.

If the Committee on Entrance is satisfied from this statement that the candidate has completed a course of study fitting him for admission to Princeton University, and has attained a satisfactory degree of proficiency in his studies, the Committee may give him permission to apply for entrance under this plan.

Permission to try these examinations must be ob-

tained from the Princeton Committee on Entrance. An accepted candidate, if he makes previous application to the College Entrance Examination Board, may present himself for examination in June at any of the examination centers of the Board, where he will take the so-called *comprehensive examinations* in the four subjects designated by the Committee. (See p. 66.) In September the examinations will be held in Princeton only. These examinations will be based upon the candidate's work in the four principal subjects which form the prescribed subjects of the old plan, as follows:

A.B.	B.S. LITT.B.	C.E.
English	English	English
Mathematics	Mathematics	Mathematics, including Solid Geometry and Trigonometry
Latin	Latin	French A. or German A. or 3 Second year Latin
Greek	French or German	Physics or Chemistry or History

These examinations will be comprehensive in character, but particular emphasis will be laid upon the later or more advanced portions of the work. A candidate who passes creditably in these four subjects will be admitted to the freshman class without conditions.

Statement of School Record

The statement of the candidate's school record should contain the following information:

(a) The textbooks used in each year of his work in each subject.

(b) The number of weeks devoted each year to each subject.

(c) The number of hours per week devoted each year to each subject.

(d) The grade attained each year in each subject, together with an explanation of the system of marking.

The Examinations

The order of the examinations will be in accordance with the schedule printed above.

Mathematics

The examination will be adapted to the proficiency of those who have had not less than the usual school course, in Algebra AI and AII, and in Plane Geometry; and it will also provide the means by which those who have extended their study of Mathematics to include Advanced Algebra, Solid Geometry, or Logarithms and Trigonometry may exhibit their proficiency in any or all of these branches of Mathematics. There will be two papers, one for those who have had no instruction beyond Elementary Mathematics, and one for those whose instruction has extended beyond. Any one whose instruction has extended beyond Elementary Mathematics will be expected to take the paper containing questions on Advanced Mathematics, and to devote at least half his time to those questions which cover the Advanced Mathematics he has studied. Candidates will find printed upon the examination paper the instructions necessary for their guidance.

English

The examination in English will cover the usual ground of the examinations in 1. Grammar and Composition and 2. Literature. The purpose of this examination will be to test the ability of the candidate to write clearly and correctly, and to show that he has read, understood, and appreciated a sufficient amount of English literature. The paper will

contain some questions that cannot be answered except by candidates who are able to apply what they have learned to the solution of unexpected problems. In so far as ability to pass the examination may depend upon a knowledge of the subject-matter of books, it will not necessarily depend upon the knowledge of those books prescribed under the Old Method, though no candidate who has been intelligently prepared to attempt the examination under the Old Method should find himself at any disadvantage if he decides to avail himself of the Alternative Method.

Latin

The examination will be adapted to the proficiency of those who have studied Latin in a systematic school course of five lessons each week, extending through two, three or four years.

The paper will include passages of Latin prose and verse of varying degrees of difficulty to be translated at sight, with questions on the subject matter, literary and historical allusions, and, in the case of Vergil, on prosody, and passages for Latin composition of varying degrees of difficulty. Accompanying the different passages set upon the paper, will be questions on forms, syntax, and the idioms of the language.

Each candidate will choose those parts of the paper which are designed to test such proficiency in the language as may properly be acquired in two or more years' study; but a candidate who has studied Latin four years may not select the more elementary parts of the paper.

French

The examination will be adapted to the proficiency of those who have studied French in school for two or three years.

The paper will include passages of French prose or verse of varying degrees of difficulty to be translated into simple and idiomatic English. It will also contain passages in English of varying degrees of difficulty to be translated into French, and questions on grammar. Opportunity will also be given for those who have had special training in French to show their ability to express themselves in that language.

German

The examination will be adapted to the proficiency of those who have studied German in school for two or three years.

The paper will include passages of German prose or verse of varying degrees of difficulty to be translated into simple and idiomatic English. It will also contain passages in English of varying degrees of difficulty to be translated into German, and questions on grammar. Opportunity will also be given for those who have had special training in German to show their ability to express themselves in that language.

Physics

The examination will be adapted to the proficiency of those who have had such a course of school training in the elementary facts and principles of Physics as is described in the definition of Elementary Physics issued by the College Entrance Examination Board. The paper will contain, however, more questions than any one candidate is expected to answer, in which an effort will be made to make due allowance for diversity of instruction.

Chemistry

The examination will be adapted to the proficiency of those who have received systematic instruction in the prin-

ciples of Chemistry and their applications in a school course in which laboratory experiments are performed by the pupil. The paper will contain more questions than the candidate is expected to answer, in order to make allowance for diversity of instruction in different schools, and will require the recognition of the phenomena and the laws that are of general significance and the illustration of such phenomena and laws by well-chosen examples. The questions will include not only questions on the Chemistry of laboratory practice but also, in an elementary fashion, the Chemistry of the household and of industry.

History

The paper will consist of four divisions, made up of questions on Ancient History, Mediaeval and Modern History, English History, and American History. If the candidate has studied but one of these divisions, he will be expected to answer the prescribed questions on that division, one of them being a map question. He will be expected to spend about two hours on these questions. In the remaining hour, he should answer additional questions from the same division. If, on the other hand, the candidate has studied two or more of these divisions, he will be expected to answer, in addition to the prescribed questions on one of these divisions, questions on such other divisions as he may have studied.

In reading the papers, account will be taken of the year of the school programme in which the subject has been studied. As further evidence of a candidate's efficiency, note-books may be submitted.

Greek

The examination will be adapted to the proficiency of those who have studied Greek in a systematic school course

of five exercises a week, extending through two or three school years.

The paper will include passages of simple Attic prose, and of Homer, to be translated at sight, and a passage from the first eight chapters of Xenophon's Anabasis, upon which questions will be based to afford the candidate means of showing his mastery of the ordinary forms, constructions, and idioms of the language. The paper will also include passages in English to be turned into Greek, and questions on prosody and on the Homeric poems and on Homeric life.

FRESHMAN ENTRANCE REQUIREMENTS

The following entrance requirements are defined for the most part in close accordance with recommendations of the National Education Association and of the College Entrance Examination Board. It is recommended that candidates be prepared for examination on the requirements as specified, but equivalents will be accepted. The University will in all cases be the judge of the equivalence of subjects offered as substitutes for the specified requirements.

There are three regular forms of entrance to the courses leading to degrees in Princeton University, viz.: (1) Entrance for those who offer Greek and are candidates for the degree of A.B. (2) Entrance for those who do not offer Greek and are candidates for the degree of B.S. or Litt.B., for which the entrance requirements are identical. (3) Entrance for those who are candidates for the degree of C.E.

The degree of Bachelor of Science is open to those who concentrate in one of the mathematical or scientific departments during the junior and senior years; the degree of Bachelor of Letters to those who concentrate in one of the departments of philosophical, political, literary, or other humanistic studies.

The freshman entrance requirements for candidates for the various degrees given in course in Princeton University are as follows (the detailed statements of subjects are given on pages 83 to 106):

FRESHMAN ENTRANCE REQUIREMENTS FOR THE COURSES LEADING TO THE DEGREES OF A.B., B.S., AND LITT.B.

Every candidate must offer all the subjects in one of the following lists:

A.B. COURSE	B.S.-LITT.B. COURSE
GREEK	MODERN LANGUAGES: EITHER
B Xenophon } *	French A Elementary
G Sight Translation of Prose }	or
	German A Elementary
C Homer, Iliad Bks. I-III	
A 1 Grammar } *	
A 2 Elementary Prose Composition }	
LATIN	LATIN
3. Second Year Latin	3. Second Year Latin
2. Elementary Prose Composition } *	2. Elementary Prose Composition } *
4. Cicero and Sight Translation of Prose }	4. Cicero and Sight Translation of Prose }
5. Vergil and Sight Translation of Poetry	5. Vergil and Sight Translation of Poetry
ENGLISH	ENGLISH
1. Grammar and Composition	1. Grammar and Composition
2. Literature	2. Literature
MATHEMATICS	MATHEMATICS
A 1. Algebra to Quadratics	A 1. Algebra to Quadratics
A 2. Algebra, Quadratics and beyond	A 2. Algebra, Quadratics and beyond
C. Plane Geometry	C. Plane Geometry

* Bracketed subjects should be taken together as a single part of the whole subject.

In addition to the prescribed subjects named above, every candidate must offer such a selection of subjects from the following list that the sum of values assigned (in parentheses) to the several subjects shall amount to not less than five for the A.B. candidate, and not less than seven for the B.S.-Litt.B. candidate. But no candidate may offer more than two of the four subjects in History:

HISTORY: Not more than *two* of
- A. Ancient History (1)
- B. Mediaeval and Modern European History (1)
- C. English History (1)
- D. American History and Civil Government (1)

MODERN LANGUAGES
- French A Elementary (4), if not offered in the list of prescribed subjects
- French B Intermediate (2)
- German A Elementary (4), if not offered in the list of prescribed subjects
- German B Intermediate (2)
- Spanish A Elementary (2)

MATHEMATICS
- D. Solid Geometry (1)
- F. Plane Trigonometry (1)

SCIENCE
- Physics (2)
- Chemistry (2)

FRESHMAN ENTRANCE REQUIREMENTS FOR THE COURSE LEADING TO THE DEGREE OF C.E.

[*N. B.—No student will be admitted to regular standing in the C.E. freshman class who has failed to pass all the mathematical subjects required for entrance; and no student who has any deficiency in mathematics will be admitted even on trial unless this deficiency is slight and the quality of his work in other subjects required for entrance is high.*]

Every candidate for admission to the C.E. course must offer the following subjects:

ENGLISH
1. Grammar and Composition
2. Literature

FOREIGN LANGUAGES: Any two of the four languages
Latin 3. Second Year
French A. Elementary
German A. Elementary
Spanish A. Elementary

MATHEMATICS
A 1. Algebra to Quadratics
A 2. Algebra, Quadratics and beyond
C. Plane Geometry
D. Solid Geometry
F. Plane Trigonometry

SCIENCE: Either
Physics, or
Chemistry

In addition to the prescribed subjects above, every candidate for the C.E. course must offer such a selection of subjects from the following list that the sum of the values assigned (in parentheses) to the several subjects shall amount to not less than five. But no candidate may offer more than two of the four subjects in History.

HISTORY
A. Ancient History (1)
B. Mediaeval and Modern European History (1)
C. English History (1)
D. American History and Civil Government (1)

FOREIGN LANGUAGES
3. Second Year Latin (4) if not offered in the list of prescribed subjects
2. Elementary Prose Composition } (2)*
4. Cicero and Sight Translation }
5. Vergil and Sight Translation (2)

* Bracketed subjects should be taken together as a single part of the whole subject.

French A Elementary (4), if not offered in the list of prescribed subjects
French B Intermediate (2)
Spanish A Elementary (2) if not offered in the list of prescribed subjects.
German A Elementary (4), if not offered in the list of prescribed subjects
German B Intermediate (2)

SCIENCE

Physics (2) if not offered in the list of prescribed subjects
Chemistry (2) if not offered in the list of prescribed subjects

[It is recommended that all candidates should receive instruction in free-hand drawing before entrance.]

FRESHMAN ENTRANCE SUBJECTS

HISTORY

The requirements in History are based on the recommendations of the Committee of Seven of the American Historical Association.

A. *Ancient History,* with special reference to Greek and Roman history, and including also a short introductory study of the more ancient nations and the chief events of the early Middle Ages, down to the death of Charlemagne (814).

B. *Mediaeval and Modern European History,* from the death of Charlemagne to the present time.

C. *English History.*

D. *American History and Civil Government.*

The examinations in history will be framed so as to require the use of both judgment and memory on the pupil's part. They will presuppose the use of good textbooks, collateral reading, and practice in written work. Geographical knowledge will be tested by means of an outline map.

The Report of the Committee of Seven, which appeared in the Proceedings of the American Historical Association

for 1898, was published separately under the title *Study of History in Schools* by The Macmillan Company in 1899. It was incorporated in the Report made to the National Education Association in 1899 by the Committee on College Entrance Requirements.

The attention of teachers is called also to the report of the Committee of Five of the American Historical Society, *The Study of History in Secondary Schools* (New York, The Macmillan Company, 1911). The examiners of the Board will endeavor to frame the examination papers *on the four fields of work defined above* in accordance with the recommendations of this committee.

GREEK

The following requirements in Greek conform as closely as possible to the recommendations of the Committee of Twelve of the American Philological Association.

A 1. Grammar: The inflections; the simpler rules for composition and derivation of words; syntax of cases and the verbs; structure of sentences in general, with particular regard to relative and conditional sentences, indirect discourse, and the subjunctive.†

A 2. Elementary Prose Composition, consisting principally of detached sentences to test the candidate's knowledge of grammatical constructions.†

The examination in grammar and prose composition will be based on the first two books of Xenophon's *Anabasis.*

B. Xenophon: The first four books of the *Anabasis.**

C. Homer: Iliad. I-III: The first three books of the *Iliad* (omitting II, 494-end), and the Homeric constructions, form, and prosody.

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† Greek A 1 and A 2 should be taken together as constituting a single indivisible subject.

*Greek B and G should be taken together as constituting a single indivisible subject.

G. Sight Translation of Prose of no greater difficulty than Xenophon's *Anabasis.**

LATIN

The following requirements in Latin are in accordance with the recommendations made to the American Philological Association by the Commission on College Entrance Requirements in Latin, October, 1909.†

I. *Amount and Range of the Reading Required*

(1) The Latin reading, without regard to the prescription of particular authors and works, shall be not less *in amount* than Caesar: *Gallic War,* I-IV; Cicero, the Orations against Catiline, for the Manilian law, and for Archias; Vergil, *Æneid,* I-VI.

(2) The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (*Gallic War* and *Civil War*) and Nepos(*Lives*); Cicero (Orations, Letters and *De Senectute*) and Sallust (*Catiline* and *Jugurthine War*); Vergil (*Bucolics, Georgics,* and *Æneid*) and Ovid (*Metamorphoses, Fasti,* and *Tristia*).

II. *Scope of the Examinations*

(1) *Translation at Sight.* Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

(2) *Prescribed Reading.* Candidates will be examined also upon the following prescribed reading: Cicero, Orations for the Manilian Law and for Archias, and Vergil, *Æneid,*

*Greek B and G should be taken together as constituting a single indivisible subject.

†This Commission and its work are described in the Tenth Annual Report of the Secretary of the College Entrance Examination Board, pages 4-7.

I, II and either IV or VI, at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

(3) *Grammar and Composition.* The examinations in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose.

Suggestions Concerning Preparation

Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue throughout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so, gradually, of the whole sentence—just as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes. so far as this can be known or inferred from that which has preceded, and from the form and the position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphrase. Nor should it be a mere loose paraphrase. The full meaning of the passage to be translated, gathered in the way described above, should finally be expressed in clear and natural English.

A written examination cannot test the ear or tongue, but proper instruction in any language will necessarily include the training of both. The school work in Latin, therefore, should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be more practised.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which poetry is read as well; for this work the prose authors already studied should be used as models.

Subjects for Examination

2. *Elementary Prose Composition.* The examination will presuppose the reading of the required amount of prose (see I, 1 and 2), including the prose works prescribed (see II, 2).*

3. *Second Year Latin.* This examination is offered primarily for candidates intending to enter colleges which require only two years of Latin or accept so much as a complete preparatory course. It will presuppose reading not less in amount than Cæsar *Gallic War,* I-IV, selected by the schools from Cæsar (*Gallic War* and *Civil War*) and Nepos(*Lives*); but the passages set will be chosen with a view to sight translation. The paper will include easy grammatical questions and some simple composition.

4. *Cicero* (Orations for the Manilian Law and for Archias) and *Sight Translation of Prose.* The examination will presuppose the reading of the required amount of prose (see I, 1 and 2).*

* Latin 2 and 4 should be taken together as constituting a single indivisible subject.

5. *Vergil* (*Æneid,* I, II, and either IV or VI, at the option of the candidate) and *Sight Translation of Poetry.* The examination will presuppose the reading of the required amount of poetry (see I, 1 and 2).

ENGLISH

The requirement in English is that recommended by the National Conference on Uniform Entrance Requirements in English.

REQUIREMENT FOR 1915-1919

The study of English in school has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

Grammar and Composition

The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, and easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

Literature

The second object is sought by means of two lists of books, headed respectively READING and STUDY, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

A. Reading

The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group I.

GROUP I—CLASSICS IN TRANSLATION

The *Old Testament,* comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther.

The *Odyssey,* with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII.

The *Iliad,* with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI.

The *Æneid.*

The *Odyssey, Iliad* and *Æneid* should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

GROUP II—SHAKESPEARE

Midsummer Night's Dream; Merchant of Venice; As You Like It; Twelfth Night; The Tempest; Romeo and Juliet; King John; Richard II; Richard III; Henry V; Coriolanus, [*Julius Caesar; Macbeth; Hamlet,* if not chosen for study under B.]

GROUP III—PROSE FICTION

Malory: *Morte d'Arthur* (about 100 pages); Bunyan: *Pilgrim's Progress,* Part I; Swift: *Gulliver's Travels* (voyages to Lilliput and to Brobdingnag); Defoe: *Robinson Crusoe,* Part I; Goldsmith: *Vicar of Wakefield;* Frances Burney: *Evelina;* Scott's Novels, any *one;* Jane Austen's Novels, any *one;* Maria Edgeworth: *Castle Rackrent,* or *The Absentee;* Dickens' Novels, any *one;* Thackeray's Novels, any *one;* George Eliot's Novels, any *one;* Mrs. Gaskell: *Cranford;* Kingsley: *Westward Ho!* or *Hereward the Wake;* Reade: *The Cloister and the Hearth;* Blackmore: *Lorna Doone;* Hughes: *Tom Brown's Schooldays;* Stevenson: *Treasure Island,* or *Kidnapped,* or *Master of Ballantrae;* Cooper's Novels, any *one;* Poe: *Selected Tales;* Hawthorne: *The House of the Seven Gables,* or *Twice Told Tales,* or *Mosses from an Old Manse;* A collection of *Short Stories* by various standard writers.

GROUP IV—ESSAYS, BIOGRAPHY, ETC.

Addison and Steele: *The Sir Roger de Coverley Papers,* or Selections from the *Tatler* and *Spectator* (about 200

pages); Boswell: Selections from the *Life of Johnson* (about 200 pages); Franklin: *Autobiography;* Irving: Selections from the *Sketch Book* (about 200 pages), or *Life of Goldsmith;* Southey: *Life of Nelson;* Lamb: Selections from the *Essays of Elia* (about 100 pages); Lockhart: Selections from the *Life of Scott* (about 200 pages); Thackeray: Lectures on *Swift, Addison,* and *Steele* in the *English Humorists;* Macaulay: Any one of the following essays: *Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederic the Great, Madame d'Arblay;* Trevelyan: Selections from the *Life of Macaulay* (about 200 pages); Ruskin: *Sesame and Lilies,* or *Selections* (about 150 pages); Dana: *Two Years before the Mast;* Lincoln: *Selections,* including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman: *The Oregon Trail;* Thoreau: *Walden;* Lowell: *Selected Essays* (about 150 pages); Holmes: *The Autocrat of the Breakfast Table;* Stevenson: *An Inland Voyage* and *Travels with a Donkey;* Huxley: *Autobiography* and selections from *Lay Sermons,* including the addresses on *Improving Natural Knowledge, A Liberal Education,* and *A Piece of Chalk;* A collection of *Essays* by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers; A collection of *Letters* by various standard writers.

GROUP V—POETRY

Palgrave: *Golden Treasury* (First Series), *Books II and III,* with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave: *Golden Treasury* (First Series), *Book IV,* with special attention to Wordsworth, Keats, and Shelley (if not chosen for study under B); Goldsmith: *The Traveller* and *The Deserted Village;*

Pope: *The Rape of the Lock;* A collection of English and Scottish *Ballads,* as, for example, some *Robin Hood* ballads, *The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Grahame, Sir Patrick Spens,* and a selection from later ballads; Coleridge: *The Ancient Mariner, Christabel,* and *Kubla Khan;* Byron: *Childe Harold, Canto III* or *IV,* and *The Prisoner of Chillon;* Scott: *The Lady of the Lake,* or *Marmion;* Macaulay: *The Lays of Ancient Rome, The Battle of Naseby, The Armada, Ivry;* Tennyson: *The Princess,* or *Gareth and Lynette, Lancelot and Elaine,* and *The Passing of Arthur;* Browning: *Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa—Down in the City, The Italian in England, Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus;* Arnold: *Sohrab and Rustum,* and *The Forsaken Merman; Selections* from *American Poetry,* with special attention to Poe, Lowell, Longfellow, and Whittier.

B. Study

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I—DRAMA

Shakespeare: *Julius Caesar,* or *Macbeth,* or *Hamlet.*

GROUP II—POETRY

Milton: *L'Allegro, Il Penseroso,* and either *Comus* or *Lycidas;* Tennyson: *The Coming of Arthur, The Holy Grail,* and *The Passing of Arthur;* The selections from Words-

worth, Keats, and Shelley in *Book IV* of Palgrave's *Golden Treasury* (First Series).

GROUP III—ORATORY

Burke: *Speech on Conciliation with America;* Macaulay's two *Speeches on Copyright* and Lincoln's *Speech at Cooper Union;* Washington's *Farewell Address* and Webster's *First Bunker Hill Oration.*

GROUP IV—ESSAYS

Carlyle: *Essay on Burns,* with a selection from Burns's *Poems;* Macaulay: *Life of Johnson;* Emerson: *Essay on Manners.*

Examination

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The examination will be divided into two parts:

I. GRAMMAR AND COMPOSITION

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He will not be expected to write more than four hundred words an hour.

2. LITERATURE

The examination in literature will include:

A. General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined above under *A. READING.* The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but the books named in this list will not be made the basis of detailed questions†.

B. A test on the books prescribed under *B. STUDY* above, which will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

GERMAN

The requirements in German follow the recommendations of the Committee of Twelve of the Modern Language Association of America.*

A. Elementary German

THE AIM OF THE INSTRUCTION

At the end of the elementary course in German the pupil should be able to read at sight, and to translate, if called upon, by way of proving ability to read, a passage of very easy dialogue or narrative prose, help being given upon

† A suitable blank form of certificate may be obtained from the Secretary of the College Entrance Examination Board upon application.

* The report of the Committee of Twelve, which was submitted in December, 1898, may be obtained in separate book-form from D. C. Heath & Co. The lists of texts at present given in the requirements of the College Entrance Examination Board were recommended by a committee of the Modern Language Association in December, 1910.

unusual words and construction, to put into German short English sentences taken from the language of every-day life or based upon the text given for translation, and to answer questions upon the rudiments of the grammar, as defined below.

THE WORK TO BE DONE

During the first year the work should comprise:

1. Careful drill upon pronunciation.

2. The memorizing and frequent repetition of easy colloquial sentences.

3. Drill upon the rudiments of grammar, that is, upon the inflection of the articles, of such nouns as belong to the language of every day life, of adjectives, pronouns, weak verbs and the more usual strong verbs; also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word-order.

4. Abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression.

5. The reading of from 75 to 100 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson (the teacher giving the English), and in the reproduction from memory of sentences previously read.

Suitable texts for the first year* are: After one of the many Readers especially prepared for beginners,—Meissner: *Aus meiner Welt;* Blüthgen: *Das Peterle von Nürnberg;* Storm: *Immensee,* or any of Baumbach's short stories:

During the second year the work should comprise:

* During each year at least six German poems should be committed to memory.

1. The reading of from 150 to 200 pages of literature in the form of easy stories and plays.

2. Accompanying practice, as before, in the translation into German of easy variations upon the matter read and also in the off-hand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected passages.

3. Continued drill upon the rudiments of the grammar, directed to the ends of enabling the pupil, first, to use his knowledge with facility in the formation of sentences, and, secondly, to state his knowledge correctly in the technical language of grammar.

Suitable texts for the second year are: Gerstaecker: *Germelshausen;* Eichendorff: *Aus dem Leben eines Taugenichts;* Wildenbruch: *Das edle Blut;* Jensen: *Die braune Erica;* Seidel: *Leberecht Hühnchen;* Fulda: *Unter vier Augen:* Benedix: *Lustspiele* (any one). For students preparing for a scientific school a scientific reader is recommended.

B. Intermediate German

THE AIM OF THE INSTRUCTION

At the end of the intermediate course the pupil should be able to read at sight German prose of ordinary difficulty, whether recent or classical; to put into German a connected passage of simple English, paraphrased from a given text in German; to answer any grammatical questions relating to usual forms and essential principles of the language, including syntax and word-formation, and to translate and explain (so far as explanation may be necessary) a passage of classical literature taken from some text previously studied.

THE WORK TO BE DONE

The work should comprise, in addition to the elementary course, the reading of about 400 pages of moderately diffi-

cult prose and poetry, with constant practice in giving, sometimes orally and sometimes in writing, paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of articles, cases, auxiliaries of all kinds, tenses and modes (with special reference to the infinitive and subjunctive), and likewise upon word-order and word-formation.

Suitable texts for the third year are: Heyse's, Riehl's, Keller's, Storm's, Meyer's, Ebner-Eschenbach's, W. Raabe's *Novellen* or *Erzählungen;* Schiller: *Wilhelm Tell;* Freytag: *Die Journalisten;* Heine: *Harzreise.*

FRENCH

The requirements in French follow the recommendations of the Committee of Twelve of the Modern Language Association of America.*

A. *Elementary French*

THE AIM OF THE INSTRUCTION

At the end of the elementary course the pupil should be able to pronounce French accurately, to read at sight easy French prose, to put into French simple English sentences taken from the language of every-day life or based upon a portion of the French text read, and to answer questions on the rudiments of the grammar as defined below.

THE WORK TO BE DONE

During the first year the work should comprise:

1. Careful drill in pronunciation.

* The Report of the Committee of Twelve, which was submitted in December 1898, may be obtained in separate book form from D. C. Heath & Co. The lists of texts at present given in the requirements of the College Entrance Examination Board were recommended by a committee of the Modern Language Association in December, 1910.

2. The rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural nouns, the inflection of adjectives, participles, and pronouns; the use of personal pronouns, common adverbs, prepositions, and conjunctions; the order of words in the sentence, and the elementary rules of syntax.

3. Abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression.

4. The reading of from 100 to 175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentences read (the teacher giving the English) and in reproducing from memory sentences previously read.

5. Writing French from dictation.

Suitable texts for the first year are: A well graded reader for beginners; Bruno: *Le tour de la France;* Compayré: *Yvan Gall;* Laboulaye: *Contes bleus;* Malot: *Sans famille.*

During the second year the work should comprise:

1. The reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches.

2. Constant practice, as in the previous year, in translating into French easy variations upon the texts read.

3. Frequent abstracts, sometimes oral and sometimes written, of portions of the text already read.

4. Writing French from dictation.

5. Continued drill upon the rudiments of grammar, with constant application in the construction of sentences.

6. Mastery of the forms and use of pronouns, pronominal adjectives, of all but the rare irregular verb forms, and of the simpler uses of the conditional and subjunctive.

Suitable texts for the second year are: Daudet: *Le Petit*

Chose; Erckmann-Chatrian: stories; Halévy: *L'Abbé Constantin;* Labiche et Martin: *Le voyage de M. Perrichon;* Lavisse: *Histoire de France.*

B. Intermediate French

THE AIM OF THE INSTRUCTION

At the end of the intermediate course the pupil should be able to read at sight ordinary French prose or simple poetry, to translate into French a connected passage of English based on the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

THE WORK TO BE DONE

This should comprise the reading of from 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving French paraphrases, abstracts or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Suitable texts for the third year are: Bazin: *Les Oberlé;* Dumas: novels; Mérimée: *Colomba;* Sandeau: *Mlle. de la Seiglière;* Tocqueville: *Voyage en Amérique.*

SPANISH

The requirement in Spanish, which follows the form and spirit of the recommendations made for French and German by the Committee of Twelve of the Modern Language Association, is based upon recommendations made by a committee of that Association in December, 1910.

A. Elementary Spanish

THE AIM OF THE INSTRUCTION

At the end of the elementary course the pupil should be able to pronounce Spanish accurately, to read at sight easy

Spanish prose, to put into Spanish simple English sentences taken from the language of every-day life or based upon a portion of the Spanish text read, and to answer questions on the rudiments of the grammar, as indicated below.

THE WORK TO BE DONE

During the first year the work should comprise:

1. Careful drill in pronunciation.
2. The rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax.
3. Exercises containing illustrations of the principles of grammar.
4. The careful reading and accurate rendering into good English of about 100 pages of easy prose and verse, with translation into Spanish of easy variations of the sentences read.
5. Writing Spanish from dictation.

During the second year the work should comprise:

1. The reading of about 200 pages of prose and verse.
2. Practice in translating Spanish into English, and English variations of the text into Spanish.
3. Continued study of the elements of grammar and syntax.
4. Mastery of all but the rare irregular verb forms and of the simpler uses of the modes and tenses.
5. Writing Spanish from dictation.
6. Memorizing of easy short poems.

The emphasis should be placed on careful thorough work with much repetition rather than upon rapid reading. The reading should be selected from the following: A collection of easy short stories and lyrics, carefully graded; Juan Valera: *El pájaro verde;* Perez Escrich: *Fortuna;* Ramos

Carrión and Vital Aza: *Zaragüeta;* Palacio Valdés: *José;* Pedro de Alarcón: *El Capitán Veneno;* the selected short stories of Pedro de Alarcón or Antonio de Trueba.

Every secondary school in which Spanish is taught should have in its library several Spanish-English and English-Spanish dictionaries, the all-Spanish dictionary of the Royal Spanish Academy; one or more manuals of the history of Spanish literature, such as that by Fitzmaurice-Kelly, and Ticknor's *History of Spanish Literature.*

MATHEMATICS

The present definition of the requirements in Mathematics is in accordance with recommendations made in September, 1903, by a committee of the American Mathematical Society.*

Algebra to Quadratics, A I. The four fundamental operations for rational algebraic expressions, factoring, determination of highest common factor and lowest common multiple by factoring. Fractions, including complex fractions, and ratio and proportion. Linear equations, both numerical and literal, containing one or more unknown quantities. Problems depending on linear equations. Radicals, including the extraction of the square root of polynomials and of numbers. Exponents, including the fractional and negative.

Quadratics and Beyond, A II. Quadratic equations, both numerical and literal. Simple cases of equations with one or more unknown quantities, that can be solved by the methods of linear or quadratic equations. Problems depending on quadratic equations. The binomial theorem for positive integral exponents. The formulas for the *n*th term

* The Report of the Committee of the American Mathematical Society on Entrance Requirements in Mathematics was published in the *Bulletin of the American Mathematical Society* for November, 1903, vol. IX, no. 2.

and the sum of the terms of arithmetical and geometric progressions, with applications.

It is assumed that pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Some of these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods and illustrations, particularly in connection with the solution of equations, is also expected.

C. Plane Geometry. The usual theorems and constructions of good textbooks,* including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle. The solution of numerous original exercises, including loci problems. Applications to the mensuration of lines and plane surfaces.

D. Solid Geometry. The usual theorems and constructions of good textbooks,* including the relations of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle. The solution of numerous original exercises, including loci problems. Applications to the mensuration of surfaces and solids.

F. Plane Trigonometry. Definitions and relations of the six trigonometric functions as ratios; circular measurement of angles. Proofs of principal formulas, in particular for the sine, cosine, and tangent of the sum and the difference of two angles, of the double angle and the half angle, the product

* The Board's examination questions in plane and solid geometry will be limited to propositions contained in the syllabus prepared by the National Committee of Fifteen appointed by the American Federation of Teachers of the Mathematical and Natural Sciences and the National Education Association. The Report of the Committee was published in *The Mathematics Teacher* for December, 1912. Reprints of the Report may be obtained *gratis* upon application to the Commissioner of Education, Department of the Interior, Washington, D. C.

expressions for the sum or the difference of two sines or of two cosines, etc.; the transformation of trigonometric expressions by means of these formulas. Solution of trigonometric equations of a simple character. Theory and use of logarithms (without the introduction of work involving infinite series). The solution of right and oblique plane triangles.

PHYSICS

The present definition of the requirement in Physics was framed by a commission appointed for the purpose by the College Entrance Examination Board in co-operation with other associations.*

General Statement

1. The course of instruction in Physics should include:

(*a*) The study of one standard textbook, for the purpose of obtaining a connected and comprehensive view of the subject. The student should be given opportunity and encouragement to consult other scientific literature.

(*b*) Instruction by lecture-table demonstrations, to be used mainly for illustration of the facts and phenomena of physics in their qualitative aspects and in their practical applications.

(*c*) Individual laboratory work consisting of experiments requiring at least the time of 30 double periods, two hours in the laboratory to be counted as equivalent to one hour of class-room work. The experiments performed by each student should number at least 30. The work should be so distributed as to give a wide range of observation and practice.† Princeton University does not require that a candidate offering Physics shall have done laboratory work in that

* The commission and its work was described in the Ninth Annual Report of the Secretary of the College Entrance Examination Board, pages 4-12.

† On request the Secretary of the College Entrance Examination Board will furnish a pamphlet containing the list of topics deemed fundamental and the list of experiments suitable for laboratory work in Physics.

subject. It strongly advises all candidates to do laboratory work when it is possible for them to do it.

The aim of laboratory work should be to supplement the pupil's fund of concrete knowledge and to cultivate his power of accurate observation and clearness of thought and expression. The exercises should be chosen with a view to furnishing forceful illustrations of fundamental principles and their practical applications. They should be such as yield results capable of ready interpretation, obviously in conformity with theory, and free from the disguise of unintelligible units.

Slovenly work should not be tolerated, but the effort for precision should not lead to the use of apparatus or processes so complicated as to obscure the principle involved.

(2) Throughout the whole course special attention should be paid to the common illustrations of physical laws and to their industrial applications.

(3) In the solution of numerical problems, the student should be encouraged to make use of the simple principles of algebra and geometry to reduce the difficulties of solution. Unnecessary mathematical difficulties should be avoided and care should be exercised to prevent the student from losing sight of the concrete facts in the manipulation of symbols.

N.B. *In lieu of the presentation of a laboratory notebook hitherto required of students who have done laboratory work, Princeton University will hereafter require the submission of a laboratory certificate signed by the candidate's teacher, describing the work done. In June this certificate should be sent to the Secretary of the College Entrance Examination Board who, on request, will furnish a blank form suitable for the purpose. In September it should be sent to the Registrar of Princeton University.*

CHEMISTRY

The requirement in chemistry is divided into two parts:

Part I contains a minimum list of essential topics. In the examination papers there will be no optional questions on this part, and these questions will count sixty (60) per cent.

Part II is supplementary, and provides for a more extended programme along three main lines, namely,

A. Descriptive chemistry.

B. Chemical principles or theories.

C. Applications of chemistry in the household or in the arts.

This part of the examination paper offers a choice of questions and will count forty (40) per cent. In his answers the candidate must confine himself to two out of three groups of questions.

The teacher may thus devote the time to any two of the three groups indicated, and so adapt his course to local conditions or personal preference. It should be clearly recognized that thoroughness in teaching must not be sacrificed to an attempt to cover the topics named in all three of the groups.

It is required that the candidate's preparation in chemistry should include:

(1) Individual laboratory work, comprising at least forty exercises selected from a list of sixty or more, not very different from the list suggested by the College Entrance Examination Board.

(2) Instruction by lecture-table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations.

(3) The study of at least one standard textbook to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary chemistry.

Teachers of chemistry preparing candidates to enter the University, or the candidates themselves, are advised to write to the Secretary of the College Entrance Examination Board, for a *pamphlet, which will give full information as to all the requirements in chemistry.*

N.B. *In lieu of the presentation of a laboratory note-book hitherto required, Princeton University will hereafter require the submission of a laboratory certificate, signed by the candidate's teacher, describing the work done. No credit will be given for the examination in chemistry unless accompanied by such a certificate. In June this certificate should be sent to the Secretary of the College Entrance Examination Board, who, on application, will furnish a blank form suitable for the purpose. In September it should be sent to the Registrar of Princeton University.*

EXAMINATIONS OF THE NEW YORK STATE BOARD OF REGENTS

The Committee on Entrance may at its discretion accept the answer papers written by candidates in the examinations of the New York State Board of Regents, provided that these papers have been re-read and passed by the examiners at Princeton. These papers will be re-read by the Princeton examiners each year in the weeks beginning May 15 and August 15, and must be in the hands of the Registrar on or before those dates.

ASIATIC STUDENTS

Any candidate for admission who is a native of Asia, and not of American or European parentage, may offer as a substitute for the regular requirement in Latin an equivalent in Arabic, Chinese, Sanskrit, or Pali. A candidate who wishes

to make this substitution should notify the Registrar not later than March 1 of the year in which he plans to enter.

ADMISSION TO SPECIAL COURSES

In exceptional cases students are admitted to the privileges of the University, not as members of any one of the four regular classes or as candidates for a degree, and are allowed to take special undergraduate courses, selected under the direction of the Faculty, in such a manner as to secure as full an employment of their time as in the regular course. Such special students are subject to the same regulations and discipline and to the same examinations in the studies pursued as other undergraduates. Any one desiring to enter as a special student is expected to take the regular entrance examinations upon the subjects prerequisite to his courses and to pass a sufficient number of subjects to show that he has an amount of preparation equivalent to that required of regular students. These special courses, however, are not offered to those who attempt to enter the regular course and fail to do so, nor to those who have failed in the regular course.

When special students are finally leaving the University, certificates of proficiency, signed by the President and Registrar, may be granted them on report by the Committee on Examinations and Standing that they have completed the courses on their schedule.

STUDENTS PURSUING PARTIAL COURSES

Students in the Theological Seminary, or other properly qualified persons, may be admitted to one or more undergraduate courses in the University, paying $17.50 per course each term. Such students shall be entered as undergraduates in the catalogue under the caption, Students Pursuing Partial Courses.

ADMISSION FROM OTHER COLLEGES

A candidate coming from another college to which he was admitted by certificate will be held for the Princeton freshman entrance requirements in each subject in which his standing in his former college was not in the upper half of his class. Such of these requirements as are not satisfied by examination at the time of admission must be satisfied in accordance with the rules which apply to students regularly admitted upon examination.

The candidate's credits for courses taken in the college from which he comes will be accepted in so far as these courses are equivalent to courses given at Princeton. If his credits show that he has an amount of preparation equivalent to that required of a regular freshman, he will be admitted and will be classified as a Student Qualifying for Regular Standing. He will be assigned to those courses for which he is qualified, preference being given to such of the required courses as he may not have had. If at the end of two terms of residence in Princeton his work has been satisfactory, he may be enrolled as a regular student, his status being determined by his credits; or, in case he qualifies for it, he may receive a degree with the graduating class. In the meantime he will be subject to the same regulations and discipline as a regular student.

No person is admitted to the University as a candidate for a Bachelor's degree, or for the degree of Civil Engineer, after the beginning of the first term of the senior year.

REGULATION CONCERNING SECRET SOCIETIES

Immediately after the beginning of the academic year the students entering the Undergraduate Department meet according to announcement for matriculation; and subscription to the following pledge is required by the Board of Trustees:

We, the undersigned, do individually for ourselves promise, without mental reservation, that we will have no active connection whatever with any secret society, nor be present at the meetings of any secret society in this institution so long as we are members of Princeton University, it being understood that this promise has no reference to the American Whig and Cliosophic Societies. We also declare that we regard ourselves bound to keep this promise and on no account whatever to violate it.

PART IV

PLAN OF UNDERGRADUATE STUDY

PLAN OF UNDERGRADUATE STUDY

The courses of study offered to candidates for a bachelor's degree extend through four academic years, and lead to the degrees of Bachelor of Arts (A.B.), Bachelor of Letters (Litt.B), and Bachelor of Science (B.S.). The degree of Bachelor of Arts (A.B.) is open to those who, entering with Greek, fulfill the full classical requirements of freshman and sophomore years; candidates for the degree being free, after the two introductory years, to choose their studies in whatever department they prefer, whether philosophical, literary, or scientific. The degree of Bachelor of Letters (Litt.B.) is open to those who, having substituted for Greek at entrance either French or German or one of those languages and physics or chemistry, concentrate their studies in junior and senior years in one of the philosophical, literary, political, or other humanistic departments. The degree of Bachelor of Science is open to those who, entering with a similar substitution for Greek, concentrate their studies in junior and senior years in one of the mathematical or scientific departments. The degree of Civil Engineer is conferred upon those who complete the full course in Civil Engineering, as outlined on succeeding pages.

The schedule of every sophomore, junior, and senior who is a candidate for a bachelor's degree consists of five courses of three hours a week, subject only to the established exemptions for candidates for Final Special Honors.

The various courses of study offered are open only to students of that year to which the courses belong, except in cases where students are allowed or required to take a course belonging to a preceding year. A student not re-

quired to enroll in a course of a lower year than the one in which he is ranked, and desiring to do so, is required to present to the Registrar the written permission of the instructor in charge of the course.

THE FRESHMAN YEAR

Candidates for the A.B. degree have in freshman year seventeen class exercises a week of which two are in English, four in Latin, four in Greek, four in Mathematics, and three in the modern language offered at entrance. Any candidate for the A.B. degree who passes either French B or German B at entrance may elect an advanced course in the subject passed by him, or may begin the other modern language which he did not offer for entrance.

Candidates for the Litt.B or B.S. degree have seventeen class exercises a week of which two are in English, four in Latin, four in Mathematics, four in Physics or Chemistry, and three in a modern language.

A course in Hygiene, one hour a week, both terms, and a course in Physical Education, three periods a week, both terms, are also required of all freshmen, but the hours or periods of these courses are not to conflict with the hours regularly scheduled for each individual student in the curriculum.

FRESHMAN SCHEDULE

A.B.		Litt.B. or B.S.	
Greek	4 hours	Physics or Chemistry	4 hours
Latin	4 "	Latin	4 "
Mathematics	4 "	Mathematics	4 "
English	2 "	English	2 "
Mod. Lang.	3 "	Mod. Lang.	3 "
Hygiene	1 "	Hygiene	1 "
Physical Education	3 "	Physical Education	3 "
	21		21

THE SOPHOMORE YEAR

The sophomore courses, required and elective, arranged so as to include elementary courses prerequisite to the subsequent studies of the various departments, are as follows:

SOPHOMORE A.B.—REQUIRED

Introduction to Philosophy
Greek (1st term); Latin (2nd term)
Physics or Chemistry

SOPHOMORE A.B.—ELECTIVE (*Two courses to be taken*)

History
Latin (1st term); Greek (2nd term)
French (Advanced or Beginners')
German (Advanced or Beginners')
Spanish or Italian
English
Mathematics
Physics
Chemistry
Biology

SOPHOMORE B.S. AND LITT.B [for students who have taken Physics in Freshman Year]

REQUIRED

Introduction to Philosophy
Two of
Latin, Mathematics, Physics (second course)
or Chemistry (first course)

ELECTIVE (*Two courses to be taken*)

History
Latin
French (Advanced or Beginners')
German (Advanced or Beginners')
Spanish or Italian
English
Mathematics
Physics (second course)
Chemistry (first course)
Biology (with Chemistry)
Graphics, if Mathematics is taken

VIIa. *Department of Modern Languages. Germanic Section*
301, 302. German Literature (Opitz to Lessing)
303, 304. German Literature (Goethe)

VIIb. *Department of Modern Languages. Romanic Section*
301, 302. French Literature (17th century)
305, 306. Italian
307, 308. Spanish

C. DIVISION OF MATHEMATICS AND SCIENCE

VIII. *Department of Mathematics*
305, 306. Coördinate Geometry
307, 308. Analysis
309, 310. Analytical Mechanics

IX. *Department of Physics*
301, 302. Experimental Physics
309, 310. Analytical Mechanics
Honors Courses in Mathematics and Physics
305, 306 A. Coördinate Geometry
307, 308 B. Analysis
309, 310 C. Analytical Mechanics
311, 312 D. Theoretical Physics
313, 314 E. Experimental Physics

X. *Department of Chemistry*
Two courses throughout year required:
301, 302. Qualitative Analysis or 307, 308. Quantitative Analysis
305, 306. Organic Chemistry or 309, 310 Physical Chemistry

XI. *Department of Geology*
301. Geology. 302. Structural Geology
303. Descriptive Mineralogy. 304. Determinative Mineralogy
306. General Palaeontology (second term)
[Either 304 or 306 must be taken; the other may be taken as a free elective]
(*Requisite cognate course:* Biology through the year, or Chemistry through the year, or Graphics and Surveying)

XII. *Department of Biology*
201, 202. General Biology
303, 304. Botany

305. Comparative Osteology; 306. Invertebrate Zoölogy
(Students electing the Department take two courses throughout junior year. General Biology 201, 202 must be one of them, if it was not taken in sophomore year. Students who took Biology 201, 202 in sophomore year elect 303, 304 and 305, 306.)
(*Requisite cognate course:* Chemistry 303, 304 through the year)

Junior courses which are not included in any one of the departments above:

301. Elementary Astronomy; 302. Stellar Astronomy
302. Surveying
302. Graphics
303. Graphics
302. Physical Geography

LIST OF COURSES OF SENIOR YEAR

A. Division of Philosophy

I. *Department of Philosophy*
401. Fundamental Problems in Philosophy
402. Present Philosophical Tendencies
403, 404. Experimental Psychology
405. History of Greek Philosophy (1st term)
407, 408. Ethics

II. *Department of History and Politics*
401, 402. English History
403, 404. American History
405. Municipal Government (1st term)
406. Federal and State Government (2nd term)
407, 408. International Law and Diplomacy
411. Constitutional Interpretation; 412. Administrative Law
421, 422. Roman Law

III. *Department of Economics and Social Institutions*
409. Money and Banking; 410. Public Finance
411. European Economic Policy (1st term)
414. Social Economics (2nd term)

IV. *Department of Art and Archaeology*
401. Italian Sculpture; 402. Greek Sculpture

405. Italian Painting; 406. Northern Painting
407, 408. Elements of Architecture

B. Division of Language and Literature

V. *Department of Classics*
419. Homer; 420. Virgil
421, 422. Roman Law
Honors Courses in Classics
401. Lucretius; 402. Roman Elegiac Poets
413. Tacitus; 414. Cicero's Political Writings
415. Greek Lyric Poets; 416. Aristotle or 416A. Thucydides
423. Classical Influences (1st term)

VI. *Department of English*
Three courses throughout year required of Departmental students
401. English Literature (Restoration and 18th century); 402. English Literature (17th century)
403, 404. English Literature (19th century)
405. Elementary Old English; 406. Advanced Old English
407, 408. Advanced Composition
409. Classical Influences in English Literature; 410. Poetics

VIIa. *Department of Modern Languages. Germanic Section*
401, 402. German Literature (19th century)
403, 404. German Literature (Middle High German)

VIIb. *Department of Modern Languages. Romanic Section.*
401, 402. French Literature (Romantic Movement)
403, 404. Old French
405, 406. French Literature (18th and 16th centuries)
407, 408. Italian Literature
409, 410. Spanish Literature

C. Division of Mathematics and Science

VIII. *Department of Mathematics*
401, 402. Calculus and Higher Algebra (1915-1916 only)
405, 406. Algebra (not given 1915-1916)
407, 408. Projective Geometry
409, 410. Analysis

IX. *Department of Physics*
401, 402. Theoretical Physics (Light and Heat)

403, 404. Theoretical Physics (Electricity and Magnetism)
Honors Courses in Mathematics and Physics
407, 408. a. Projective Geometry
409, 410. b. Analysis
411, 412. c. Applied Mathematics: Electricity and Magnetism
413, 414. d. Theoretical Physics
415, 416. e. Experimental Physics
401, 402. f. Celestial Mechanics

X. *Department of Chemistry*
Two courses throughout year required of Departmental students:
307, 308. Quantitative Analysis, if not already taken
305, 306. Organic Chemistry or 309, 310. Physical Chemistry (the one not taken in junior year)
Electives:
401, 402. Quantitative Analysis
403, 404. Organic Chemistry
405, 406. Physical Chemistry
407. Chemical Theories (1st term)
409, 410. Advanced Inorganic Chemistry

XI. *Department of Geology*
401. 402. Historical Geology
403. Structural and Dynamic Geology; 404. Economic Geology
405, 406. Practical Geology
407. Crystallographic Mineralogy; 408. Optical Mineralogy

XII. *Department of Biology*
Three courses throughout year required of Departmental students
401. Comparative Anatomy of Vertebrates; 402. Embryology
403. Histology. 404. Histology, or 406. Palaeontology
407, 408. Physiology
409, 410. Genetics

Senior courses which are not in any one of the departments above:

401, 402. Sanskrit
403, 404. Biblical Literature

405, 406. Biblical Literature
407. History of Modern Science (1st term)
401. History and Psychology of Education (1st term)
402. Aesthetics (2nd term)
403, 404. Practical Astronomy
401. Graphics (1st term)
401, 402. Heat Engines

METHOD OF UNDERGRADUATE INSTRUCTION

Instruction in Physics, Chemistry, Biology, and Astronomy is given not only by means of lectures and formal tests upon textbooks, but also by means of practical experimental work in the several laboratories and in the working observatory. In Mathematics, besides the stated class exercises and occasional lectures, certain hours are set apart each week during which the instructors of the department are accessible for informal consultation by all students who wish further explanation or discussion of such portions of their mathematical work as most interest them or give them the most difficulty. In Geology, similarly, there is field work and constant informal resort to the geological museum, added to frequent conferences with the instructors in the several courses on the reading assigned.

Instruction in what may be called the reading departments, Philosophy, History and Politics, Economics and Social Institutions, Art and Archaeology, and the languages is given chiefly by means of informal conferences on the reading assigned. A "course" consists, not of the lectures given in connection with it or of the study of a particular textbook relied on by the lecturer, but of a prescribed body of reading to which the lectures given are complementary. In each course the student is made responsible to a particular preceptor for his reading, and reports to him once a week for conference. The student is expected to attend every conference, and may be ab-

sent only for unavoidable reasons. Failure to keep his preceptorial appointments will ordinarily affect his final standing.

At each conference the preceptor usually meets from three to six of the men assigned him. The methods of conference differ, of course, with the character of the subject, but are always informal, being intended, not as a quiz or recitation or drill, nor as a method of coaching, but, so far as the preceptor is concerned, as a means of finding out how thoroughly and intelligently the student has done his reading, and, so far as the student is concerned, as a means of stimulation and enlightenment with regard to the study in hand. His work is explained to him where it is obscure, and its scope and implications are extended out of the wider reading and maturer scholarship of the preceptor. Study centers upon these conferences, as in the scientific departments it centers upon the laboratory. They are meant to supply to study the life which it cannot have in the formal exercises of the classroom and to bring the students into an intimate contact with their teachers which is hardly possible in other methods of instruction.

One result of this method of instruction is to lay the principal emphasis of work upon the constant reading required, upon what is ordinarily called "term work," rather than upon preparation for occasional examinations. In reckoning the "standing" of a student more weight is given to his work with his preceptor than to his performance in examination. Each preceptor is expected to report in departmental meeting upon the work of the men assigned him, and it is only upon his recommendation that they are admitted to examinations. He may recommend the debarment from examination of any of the men assigned to him who seem to have neglected their work or to have done it

too indifferently. He makes no formal report to any university officer of their absences from his appointed conferences or of their attendance, but forms his own estimate of their thoroughness and faithfulness and gives his judgment upon the basis of an intimate observation.

Members of the Faculty of all ranks do "preceptorial" work: those who lecture or conduct the formal class exercises acting as preceptors as well as those who devote the principal part of their time to this special method of teaching.

HONORS

Honors are of two kinds, *General* and *Special.*

General Honors are awarded for general excellence in studies at the close of freshman and sophomore years according to the following provisions: At the close of the freshman and sophomore years High General Honors are given to those whose average rank for the year is within the first general group, and General Honors to those whose average rank for the year is within the second general group. No General Honors are awarded after the sophomore year.

FINAL SPECIAL HONORS

OPEN TO CANDIDATES FOR A BACHELOR'S DEGREE

Final Special Honors are based on the work of the junior and senior years and are awarded at graduation only. The regulations concerning Final Special Honors are as follows:

1. A student who has attained a standing of first or second general group at the end of sophomore year may be enrolled as a candidate for Final Special Honors on his own request.

A student whose standing at the end of sophomore

year is not lower than the third general group, and within the first or second group in the department he proposes to enter or in courses preliminary thereto may be enrolled on his own request as a candidate for Final Special Honors in that department.

Any student who at the end of sophomore year falls short of these requirements may be so enrolled only on the recommendation of the department or departments concerned.

A student who has been enrolled under the general plan of study during the first term of his junior year but who during that term has maintained a standing at least as high as is required of a candidate for Honors that he may continue in candidacy (see § 6), may be enrolled at the beginning of the second term of his junior year as a candidate for Final Special Honors on the recommendation of his department.

A student who has been enrolled under the general plan of study during his junior year but who during that year has maintained a standing at least as high as is required of a candidate for Honors that he may continue in candidacy (see § 6), may be enrolled, at the beginning of his senior year, as a candidate for Final Special Honors on the recommendation of his department.

Final Special Honors may be awarded to a senior who has not taken the junior year in Princeton.

2. Every junior or senior in candidacy for a bachelor's degree who is enrolled as a candidate for Final Special Honors shall have a schedule of four courses, of which at least two shall be in some one department.

3. A candidate for Final Special Honors shall do more advanced work in the courses of his department than is required of a student who is enrolled under the general plan of study.

4. A candidate for Final Special Honors shall take a final comprehensive examination which shall consist of not less than two written papers of three to four hours each, or one paper of three to four hours, supplemented by an oral examination of one hour. Special tests on laboratory work, or the preparation of a thesis, may be required in addition.

There shall be no second term senior examinations in departmental courses for candidates for Final Special Honors.

5. Final Special Honors are of three grades, Highest Honors, High Honors, and Honors. They are based upon the standing which a student has maintained in the courses of his department in junior and senior years and upon the final comprehensive examination.

6. No candidate for Final Special Honors may continue in candidacy if at the close of any term he fails to maintain an average second group standing in the courses required by his department and taken by him up to that time, or fails to maintain an average standing of third general group calculated from the beginning of junior year. In case of such a failure, he shall be required to enroll under the general plan of study. At the end of an additional term after such a failure a student who has regained an average standing of second group in his department courses and third general group, in both cases calculated from the beginning of junior year, may be enrolled as a candidate for Final Special Honors.

FINAL SPECIAL HONORS IN CIVIL ENGINEERING

Final Special Honors in Civil Engineering are based on the regular work only of the junior and senior years and are awarded at graduation. The regulations for admission to candidacy, continuation in candidacy, and grades of Honors awarded are the same as those for Final Special Honors in the courses leading to the bachelors' degrees.

DEPARTMENT OF CIVIL ENGINEERING

THE COURSE OF STUDY

The course in civil engineering is a prescribed sequence of work aiming to develop the mental powers of the student and to train him, at the same time, in the fundamental principles and methods of engineering. It occupies four years and leads to the degree of Civil Engineer.

The twofold purpose of seeking, in a four-year course, to educate broadly as well as professionally necessarily requires a larger number of subjects and student work-hours per week than is generally found in the academic courses. The intimate contact of the civil engineering students with the academic and the participation of the former in all university activities is regarded as a valuable part of their general training, making for a broad, cultured, all-around manhood. At the same time, the successful prosecution of the engineering course requires a serious interest, a concentration of purpose, and a cheerful acceptance of the larger amount of work and work-hours involved.

A high degree of specialization in the undergraduate engineering course is avoided. On the other hand, the close relationship between civil, mechanical and electrical engineering is recognized and provided for by fundamental courses in these last two fields.

About half of the subjects of the curriculum are general or only partly technical. They offer the necessary foundation for the technical work, give breadth of view, and have in themselves a direct, practical bearing upon the engineer's life work. Thus considerable time is allotted to English, mathematics, economics, and the physical sciences (chemistry, physics, and geology).

In the work in English, the need of a proficient com-

mand of written and spoken English by the engineer is recognized. In the freshman year considerable attention is given to the principles and practice of technical writing, much material for the themes being obtained from visits to engineering works and lectures by outside practicing engineers. The senior course is designed to give practice in public speaking and to train the young engineer to prepare clear, well written reports, and to explain or defend them in public.

The mathematical training of the engineer should be especially thorough, and the courses in this field, extending over the first three years, are arranged with the needs of the engineer in view. The work in analytical mechanics begins early in the course (sophomore year), and supplements in an intimate manner the more symbolic processes of the pure mathematics.

The course in economics in the junior year recognizes the value to an engineer of a clear understanding of the broad principles underlying modern industrial life. While emphasis is placed upon the fundamental principles of economics, the student is given opportunity to study some of the special problems of particular interest to engineers.

The sophomore courses in physics prepare directly for the work in thermodynamics and electrical engineering, occurring later in the course.

The technical work begins properly with the course in engineering drawing in the freshman and sophomore years. The aim of this course is to train the student to understand a complex object, such as a part of a machine or structure in all of its relationships, and to express it by free-hand sketch and mechanical drawing in proper engineering form. He is required to think, to visualize, and to use drawing as a language for the formal expression of mental concepts. The sophomore course in graphics includes descriptive

geometry and its applications. Stress is laid upon the technic of drawing.

The study of surveying and engineering field work is provided for in the courses under the general heading, Geodesy. The structure, adjustment, and use of the instruments are made subjects of special attention, and no student is allowed to participate in any extended field operation until he has passed a 100% test in both level and transit adjustments, and has acquired a certain dexterity in handling the instruments used therein. A special feature of the course in geodesy is the stress laid on the orderly collection and verification of field notes by each student, and on their appropriate use in the preparation of different kinds of plans, maps, and charts of surveys. During the two weeks immediately following the close of the second term the junior class goes into camp in close proximity to a suitable body of water in the locality selected by the professor of geodesy and members of the class, where it engages in hydrographic, stadia, and triangulation surveys. At the close of the summer vacation period this class is required to report to the professor of geodesy in Princeton on the Monday morning preceding the opening of the term (September 20th in 1915), for an extended railway location survey in the vicinity of Princeton. The method of conducting this work is similar to that of the summer camp, and the student is required to give his entire time to it until noon of the Friday of the second week of the term.

The remaining technical studies of the course, beginning with the junior year, may be grouped under the heads structural, mechanical, electrical and hydraulic engineering.

The structural group includes the course in mechanics of materials, materials testing laboratory, reinforced con-

crete, and structural design, in the junior year, and framed structures, foundations and reinforced concrete design, in the senior year. It covers steel and concrete bridges, buildings, and other engineering structures. Stress is laid upon fundamental theory, but the latter is constantly applied to the actual design of engineering structures.

The mechanical group, developing directly from the earlier course in engineering drawing, includes machine design in the junior year and heat engines in the senior. In the former particular attention is given to the mechanism for the transmission of power, especially for large moving structures. The latter covers thermodynamics and the elements of heat power engineering, steam and gas engines, steam and water turbines. The classroom work in this course is supplemented by practical work in the heat engine laboratory.

The course in electrical engineering is a general one, especially designed for the needs of the civil engineer. It covers direct currents in the first term and alternating currents in the second, and is supplemented by considerable laboratory practice.

The hydraulic group includes the mechanics of hydraulics (pressure and flow of water) supplemented by work in the hydraulic laboratory, hydrography (collection and impounding of water), water power, water supply and water works construction, sewerage systems, and the disposal and purification of sewage.

Some flexibility is given to the curriculum in the senior year by the presence of elective subjects.* The list of such subjects is not final and will be modified as future needs require. In general the selection will be made from this list, but students having a definite purpose in view may,

*See page 133.

with the approval of the department, elect other courses which have an important relation to their future work. In particular, students expecting to enter metallurgical, mining or geological work, may elect one or two terms of mineralogy.

Each candidate for the degree of Civil Engineer is required to prepare and submit for the approval of a professor appointed in each case by the department a graduation thesis. This shall be a special design of some structure, the study of some engineering problem, or the result of an experimental research. It must be creditable from the literary as well as from the technical point of view. The subject of the thesis must be announced to the professor of the department not later than November 1st, and all preliminary studies are expected to be completed and the final work under way by the beginning of the second term. The thesis must be completed on or before the second Saturday preceding Commencement. It must be typewritten upon standard paper, 8½ x 11 inches with marginal impress, prepared for this purpose. It must be bound in cloth and contain or be accompanied by all of the drawings, photographs, cuts and other material belonging with it. After final acceptance by the department it becomes the property of the University.

The following is the synopsis of the course in civil engineering:

THE FRESHMAN YEAR

First Term		*Second Term*	
English	3	English	3
Physics	4	Physics	4
Mathematics	4	Mathematics	4
Chemistry	3	Chemistry	3
Engineering Drawing	2	Engineering Drawing	1
Geodesy	1	Geodesy	2
Technology	1	Technology	1
Hygiene	1	Hygiene	1
Physical Education	3	Physical Education	3
Total	22	Total	22

THE SOPHOMORE YEAR

First Term		*Second Term*	
Physics	3	Physics	3
Mathematics	5	Mathematics	3
Analytical Mechanics	3	Analytical Mechanics	2
Engineering Drawing	1	Engineering Drawing	1
Graphics	2	Graphics	2
Geodesy	3	Geodesy	3
		Geology	3
Total	17	Total	17

THE JUNIOR YEAR

First Term		*Second Term*	
Analytical Mechanics	3	Hydraulics	3
Mechanics of Materials	4	Reinforced Concrete	3
Laboratory	2	Laboratory	1
Geodesy	3	Geodesy	3
Machine Design	2	Machine Design	2
Economics	3	Economics	3
		Structural Design	3
Total	17	Total	18

Summer Camp

THE SENIOR YEAR

First Term		*Second Term*	
Railway Location Survey		Electrical Engineering	3
Electrical Engineering	3	Heat Engines	3
Heat Engines	3	English	2
English	2	Sewerage	3
Water Power	4	Thesis	3
Framed Structures	4	Elective	4
Elective	2		
Total	18	Total	18
*Electives:		*Electives:	
Railway Economics	2	Water Supply	2
Foundations	2	Framed Structures	2
		Reinforced Concrete	2

*See also page 130.

PART V

DEPARTMENTS OF THE UNIVERSITY

*COURSES OF INSTRUCTION

A. DIVISION OF PHILOSOPHY

I. DEPARTMENT OF PHILOSOPHY AND PSYCHOLOGY

THE PRESIDENT, PROFESSORS WARREN, KEMP SMITH, JOHNSON, †BOWMAN, SPAULDING, FITE, FOGEL, WHITNEY, AND MC COMAS; DR. MARSHALL; MR. BAXTER, DR. METCALF, DR. BLAKE, MR. REEVES AND DR. SIGSBEE.

201, 202. Introduction to Philosophy: Logic, Psychology, and General Philosophy. Hibben: *Logic;* James or Angell: *Psychology;* Berkeley: *Principles of Human Knowledge.* Sophomore required course, both terms, 3 hours a week. Lecturers, Professors Kemp Smith, Bowman, Spaulding, and Fite; Classroom Instructors, Professors Kemp-Smith, Bowman, Spaulding, Fite, Fogel and Whitney, Mr. Baxter, Dr. Blake and Dr. Sigsbee.

301. History of Philosophy. Greek and Mediaeval Philosophy. Lectures and collateral reading. Junior course, first term, 3 hours a week. Prerequisite to History of Philosophy of second term. Lecturer, Professor Kemp Smith; Preceptors, Professors Fogel and Whitney, Mr. Baxter, and Dr. Blake.

302. History of Philosophy. Modern Philosophy. Lectures and collateral reading. Junior course, second term, 3 hours a week. Prerequisite course: History of Philosophy of first term. Lecturer, Professor

* Courses between 101 and 200 are for freshmen, between 201 and 300 for sophomores, between 301 and 400 for juniors, and between 401 and 500 for seniors.

† Absent on leave.

Kemp Smith; Preceptors, Professors Fogel and Whitney, Mr. Baxter, and Dr. Blake.

303. Problems of Psychology. Lectures and preceptorial reading. Junior course, first term, 3 hours a week. Lecturer, Professor Johnson; Preceptors, Professors Johnson and McComas, and Dr. Metcalf.

304. Logic. Lectures and preceptorial conferences. Junior course, second term, 3 hours a week. Professor Bowman.

305. General Psychology. The normal mental processes in man; forms and laws of consciousness and behavior; lectures and collateral reading. Junior course, first term, 3 hours a week. Lecturer, Professor Warren; Preceptors, Professors Warren and McComas, and Dr. Metcalf.

306. Genetic Psychology. Evolution of consciousness in man and the lower species; psychological application of the theory and laws of organic evolution. Lectures and collateral reading. Junior course, second term, 3 hours a week. Lecturer, Professor Warren; Preceptors, Professors Warren, Johnson, and McComas, and Dr. Metcalf.

*401. Fundamental Problems of Philosophy. Discussion, historical and systematic, of the main current topics of philosophy, materialism, agnosticism, idealism. Paulsen: *Introduction to Philosophy.* Karl Pearson: *The Grammar of Science.* Previous knowledge of technical metaphysics is not required. Senior course, first term, 3 hours a week. Lecturer, Professor Kemp Smith; Preceptors, Professors Kemp Smith, Johnson, Fogel, and Whitney.

*402. Present Philosophical Tendencies. A presentation of the main philosophical positions receiving discussion

* Also listed as a graduate course.

at the present time, together with an examination of problems and an analysis of methods. Senior course, second term, 3 hours a week. Professor Spaulding.

403. Experimental Psychology. Introductory course. Psychophysical methods, analysis of sensation, reaction, and study of the common senses. Lectures and work in the laboratory. Senior course, first term, 3 hours a week. Professor Warren.

404. Experimental Psychology. Continuation of 403. Special senses; space perception and illusions; higher intellectual processes. Lectures and work in the laboratory. Senior course, second term, 3 hours a week. Professor McComas.

*405. History of Greek Philosophy. Lectures and collateral reading. Detailed study will be made of the Pre-Socratic fragments, and of some of the chief works of Plato and Aristotle. History of Philosophy 301 should, if at all possible, be previously taken in junior year. Senior course, first term, 3 hours a week. Professor Bowman. [Not given, 1915-1916.]

*407, 408. Ethics. A study of the deeper moral problems and of the historic types of ethical theory, with their philosophical background. The bearing of ethical theory upon social and political issues and upon the practical problems of individual life. Lectures and preceptorial reading. Senior course, both terms, 3 hours a week. Lecturer, Professor Fite; Preceptors, Professors Johnson and Fite.

FINAL SPECIAL HONORS

Two courses in the Department are to be taken throughout junior and senior years.

* Also listed as a graduate course.

Final Special Honors may be taken either in Philosophy or in Psychology. In Philosophy the additional Honors work shall be as follows:

Plato, *Republic*†
Aristotle, *Ethics*†
Descartes, *Meditations*†
Berkeley, *Principles of Human Knowledge*†
Hume, *Enquiry Concerning the Human Understanding*†
Spinoza, *Ethics,* or Leibnitz, Selections
Kant, *Critique of Pure Reason*†
Kant, *Critique of Practical Reason*†
Green, *Prolegomena to Ethics*
Sigwart, *Logic*† (portions only)
William James, *Principles of Psychology*†

[Note: The books marked by a dagger are already employed, in whole or part, as reading in the regular courses.]

In Psychology the additional Honors work shall be as follows:

Reading and research in
(1) Color Vision
Space Perception (analytic, genetic, experimental, theory)
Association (historical, experimental)
Emotion (theories, laboratory tests)
Attention and Volition
Psychophysical Methods and Problems, and
(2) British Philosophy from Bacon to Hume, with reading of
Locke, *Essay Concerning the Human Understanding* (portions only)
Berkeley, *Principles*† and *Dialogues*
Hume, *Treatise on Human Nature* (Book 1)
Leibnitz, Selections

Candidates for Final Special Honors in Psychology shall take at least one course in Psychology in each term of junior and of senior years.

Candidates for Final Special Honors in Philosophy and

Psychology shall take the usual term examinations in junior and senior years, except that in place of the regular second term senior examinations a set of final examinations on the additional Honors work of junior and senior years will be substituted.

Each candidate for Final Special Honors is also required by March 14th of senior year to present a thesis on some central topic; the subject proposed to be reported to and approved by the Department not later than the close of junior year.

For graduate courses in Philosophy, see under the Graduate School.

II. DEPARTMENT OF HISTORY AND POLITICS

PROFESSORS PAUL VAN DYKE, WESTCOTT, *FORD, MC ELROY, CORWIN, †W. F. WILLOUGHBY, ABBOTT, BRÜNNOW, MUNRO, BROWN, SHIPMAN, SPENCER, MYERS, WERTENBAKER, C. R. HALL, W. P. HALL, CHALFANT ROBINSON; W. W. WILLOUGHBY; DR. MAGRUDER, DR. TYLER, MR. CLARK, AND DR. FRITTS.

201, 202. Mediaeval History; 400 A.D.—1404 A.D. Sophomore elective, both terms, 3 hours a week. One lecture weekly by Professor Munro, and two recitations weekly in small divisions, the recitations being conducted by Professors Munro, C. R. Hall, and Robinson. (This course is to precede and be continuous with History 301 and 302.)

301. European History from the fifteenth century to the French Revolution. Lectures and required reading. Junior course, first term, 3 hours a week. Lecturer, Professor W. P. Hall; Preceptors, Professors Ship-

* Absent on leave, second term.
† Absent on leave.

man, Spencer, Wertenbaker, and W. P. Hall; and Dr. Tyler.

302. European History from the French Revolution to the twentieth century. Lectures and required reading. Junior course, second term, 3 hours a week. Lecturer, Professor W. P. Hall; Preceptors, Professors Shipman, Spencer, Wertenbaker, and W. P. Hall; and Dr. Tyler.

303. Constitutional Government. The genesis, nature, and operation of constitutional government, with especial reference to the political institutions of England, Germany, and the United States. W. Wilson: *Constitutional Government;* Ogg: *The Governments of Europe;* Lowe: *The Governance of England.* Junior course, first term, 3 hours a week. Lecturer, Professor W. W. Willoughby; Preceptors, Professors Shipman and Myers, Dr. Magruder, Dr. Fritts, and Mr. Clark.

304. Elements of Jurisprudence. Outlines of jurisprudence. An exposition of jurisprudence as an organic whole, exhibiting the nature of its subject-matter, its relationship to cognate branches of study, the interrelationship of its several parts to each other, and their proper function and aim. Lectures and collateral reading. T. E. Holland: *Elements of Jurisprudence;* Sir H. S. Maine: *Ancient Law;* and other reading. Junior course, second term, 3 hours a week. Lecturer, Professor W. W. Willoughby; Preceptors, Professors Shipman and Myers, Dr. Magruder, Dr. Fritts and Mr. Clark.

305. Greek History. (Classics 305.) Two lectures will be given each week on Greek History, from the earliest times to the Roman conquest. The third hour will be devoted to preceptorial conferences on reading, in English books, on special topics such as the Methods of

Historical Investigation, Historical Criticism, the Value of the Ancient Tradition, Other Sources of Historical Knowledge, etc. A reading knowledge of Greek and Latin will not be required. Junior course, both terms, 3 hours a week. Professor Prentice.

306. Roman History to 400 A.D. (Classics 306) Special attention will be given to the study of Roman imperialism, and the main governmental, economic, social, and religious developments in the Republic and the Empire. A reading knowledge of Greek and Latin will not be required. Lectures, class reports, and conferences. Junior course, second term, 3 hours a week. Professor A. C. Johnson.

*401, 402. Modern English History from the accession of the Tudor Dynasty to the Electoral Reforms of the Nineteenth Century. Lectures, collateral reading and tests. Senior course, both terms, 3 hours a week. Lecturer, Professor van Dyke; Preceptor, Professor van Dyke.

*403. American History to the Fall of the Federalist Party. An account of the discovery of the continent, the growth of colonial institutions, the development of concerted action among the colonies, and the establishment of the federal government. Lectures dealing with selected topics; textbook covering the entire period; and extensive collateral reading. Senior course, first term, 3 hours a week. Lecturer, Professor McElroy; Preceptors, Professors McElroy, Wertenbaker, and C. R. Hall.

*404. American History since the Fall of the Federalist Party. An account of the development and expansion of the United States. Lectures dealing with selected topics; textbook covering the entire period

* Also listed as a graduate course.

and extensive collateral reading. Senior course, second term, 3 hours a week. Lecturer, Professor McElroy; Preceptors, Professors McElroy, Wertenbaker, and C. R. Hall.

*405. Politics. Municipal Government in the United States and other countries. Senior course, first term, 3 hours a week. Lecturer, Professor Ford; Preceptors, Professors Ford and Spencer, Dr. Tyler and Mr. Clark.

*406. Politics. Federal and State Government. An examination of the way in which public policy is formulated and the public business is carried on in the United States, tracing the divergence from English procedure and comparing existing methods with those of other self-governing countries. Lectures and collateral reading. Senior course, second term, 3 hours a week. Lecturer, Professor Ford; Preceptors, Professors Ford and Spencer, Dr. Tyler and Mr. Clark.

*407, 408. International Law and Diplomacy. A discussion of the principles of international law as deduced from leading cases and as applied to current diplomatic events. Scott: *Cases on International Law;* Wilson and Tucker: *International Law.* Senior course, three hours a week throughout the year. Professor Brown.

*411. Politics. History of Constitutional Interpretation in the United States. A study of the development of the leading doctrines of American constitutional law, principally by judicial decision. Lectures, cases, collateral reading. Senior course, first term, 3 hours a week. Lecturer, Professor Corwin; Preceptor, Dr. Fritts.

*412. Politics. Administrative Law. A study of the rules in accordance with which the law is enforced and

* Also listed as a graduate course.

applied in the United States. The contrast between Continental and English-American ideas of administration, the legal responsibilities of public functionaries, the delegation of powers by the legislature to administrative bodies, judicial review of administrative determinations, the constitutional and legal scope of the powers of the Interstate Commerce Commission and of similar bodies, judicial control of executive powers, and the law governing impeachments are the principal topics studied. Lectures, cases, papers and collateral reading. Senior course, second term, 3 hours a week. Lecturer, Professor Corwin; Preceptor, Dr. Fritts.

*421, 422. (Classics 421, 422) Roman Law. The History and Institutes of Roman Law. Sohm: *Institutes of Roman Law,* English translation. Leage: *Roman Private Law.* Special attention will be given to the law of obligations. Students in the Department of Classics, and others who desire to do so, will read the Institutes of Gaius and of Justinian in Latin. Senior course, both terms, 3 hours a week. Professor Westcott.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of History and Politics may become candidates for Final Special Honors, in accordance with the general regulations for Final Special Honors. The special regulations are as follows:

1. Candidates for Final Special Honors in the Department of History and Politics shall take:

(a) Two courses in the Department, together with Junior Economics, in junior year, doing the regular preceptorial and classroom work and passing all tests and examinations given in those three courses.

* Also listed as a graduate course.

(b) Two of the senior courses offered by the Department, doing the regular preceptorial and classroom work, and passing all tests and all examinations, except the final regular examination in the two courses of senior year in which they are pursuing Honors work. In place of this regular examination, candidates for Final Special Honors shall take an Honors examination covering the entire period of their Honors studies.

2. In place of the fifth course required of students not in candidacy for Honors, candidates for Final Special Honors will be required to do more extensive and advanced work in the courses which they may select. The Honors work will consist of supplemental reading and additional exercises and reports.

A statement of Honors reading will be issued.

For graduate courses in History and Politics, see under the Graduate School.

III. DEPARTMENT OF ECONOMICS AND SOCIAL INSTITUTIONS

PROFESSORS FETTER, KEMMERER, MC CLELLAN, ADRIANCE, MC CABE AND KNAUTH; AND DR. YOUNG.

305, 306. Elements of Economics. The fundamental theories of economics and some of their more important applications and exemplifications, such as money, banking, transportation, international trade, and monopoly problems. One lecture a week and two recitations in small groups to test the student's apprehension of the subject-matter covered in the reading. Fetter: *Economics,* and *Source Book in Economics.* Junior course, both terms, 3 hours a week. Prere-

quisite to Economics 409, 410, 411, 414. Professors Fetter, Adriance, McCabe, and Knauth, and Dr. Young.

307, 308. Historical and Descriptive Economics. A study of the main lines of English and American industrial development. Especial attention to critical periods which best illustrate economic principles; with a description of some important conditions of industry in the present day and more detailed study of some practical problems. Junior course, both terms, 3 hours a week. Open only to departmental students. Professor McCabe.

*409. Money and Banking. The fundamental principles of money, credit, and banking, and their exemplification in modern currency and banking history, particularly that of the United States. Considerable attention is given to present day conditions and problems. Lectures and weekly conferences. Kemmerer: *Money and Prices;* Dunbar: *The Theory and History of Banking;* Escher: *Elements of Foreign Exchange;* White: *Money and Banking.* Senior course, first term, three hours a week. Prerequisite courses: Economics 305 and 306. Professor Kemmerer (lecturer), Professors Adriance and Knauth, and Dr. Young.

*410. Public Finance. The leading principles of public finance, and some of their practical applications in modern history, particularly that of the United States. The course is devoted largely to the subject of taxation, and considerable attention is given to present day problems. Seligman: *Essays in Taxation;* Bullock: *Selected Readings in Public Finance;* and collateral readings, especially readings in the *Reports of the National Conferences on State and Local Taxation,*

* Also listed with additional work as a graduate course.

and in selected reports of State tax commissions. Senior course, second term, 3 hours a week. Prerequisite courses: Economics 305, 306. Professor Kemmerer (lecturer), Professor Adriance, and Dr. Young.

411. European Economic Policy in the Nineteenth Century. An account of some of the important political events in Europe since 1815, in connection with social conditions and industrial changes. Senior course, first term, 3 hours a week. Prerequisite courses: Economics 305, 306. Professor McClellan.

414. Social Economics. A study of the principles and methods now being applied in the prevention and treatment of crime and dependency, and in bettering physical and moral conditions of industrial life. Lectures, with collateral readings, visits to industrial and philanthropic institutions in the vicinity, and reports and conferences on assigned problems. Senior course, second term, 3 hours a week. Prerequisite courses: Economics 305, 306. Professor Fetter (lecturer) and Professor Knauth.

FINAL SPECIAL HONORS

Candidates for Final Special Honors in this Department shall have attained second general group at the end of sophomore year, or third general group with second group in Sophomore History.

Applications from other students who have done good work in Mathematics, History and Philosophy in their freshman and sophomore years will be considered by the Department.

The courses required in the Department throughout the junior and senior years are:

305, 306. Principles of Economics.

307, 308. Historical and Descriptive Economics.
409, 410. Money and Banking; Public Finance.
411, 414. Economic Policy; Social Economics.

All departmental students are required to take History and Politics 304, Jurisprudence.

The Honors readings for the first term, junior year, are: W. J. Ashley: *An Introduction to English Economic History and Theory,* Vol. I, Part 1; John A. Hobson: *Evolution of Modern Capitalism,* chapters 3, 4, 5, 6; F. W. Taussig: *Tariff History of the United States.*

For the second term, junior year: S. S. Pratt: *The Work of Wall Street;* Bruce Wyman: *Control of the Market;* Sydney and Beatrice Webb: *History of Trade Unionism,* chapters 1, 2; *Industrial Democracy,* Part II, chapters 5, 6, 10; Part III, chapters 1, 2, 3; Victor S. Clark: *The Labor Movement in Australia,* chapters 5, 6, 7, 8, 9; A. C. Pigou: *Unemployment.*

A written report on some economic problem is required each term.

The Honors readings for the first term, senior year, are selected from the following: W. Bagehot: *Physics and Politics;* Lester F. Ward: *Outlines of Sociology;* F. H. Giddings: *Descriptive and Historical Sociology;* E. A. Ross: *Social Control;* W. I. Thomas: *Source Book of Sociology.* The readings for the second term, senior year, cover parts of the history of economic doctrines, and advanced problems in economic principles.

A comprehensive examination is given in the Honors Course at the end of the senior year.

For graduate courses in Economics and Social Institutions, see under the Graduate School.

IV. DEPARTMENT OF ART AND ARCHAEOLOGY

PROFESSORS MARQUAND, BUTLER, MATHER, MOREY, AND ELDERKIN; DR. SMITH, AND MR. MORGAN.

301. Ancient Art. A general outline of the history of ancient sculpture, painting and the minor arts. Lectures and required reading. In this course the preceptorial reading consists of Maspero: **Art in Egypt;* Babelon: **Manual of Oriental Antiquities;* Fowler and Wheeler: **Greek Archaeology;* Perrot and Chipiez: *Histoire de l'Art dans l'antiquité,* vols. VI-IX. [Books marked with an asterisk are used by all students of the course, whether candidates for Final Special Honors or not.] A thesis is required of candidates for Final Special Honors on one of the following subjects: Minoan and Mycenaean Painting; Minoan and Mycenaean Metal Work; Vase Paintings with Scenes from Epic Story; The Work of Praxiteles; Types of Greek Coins; Comparative Study of Greek and Roman Portraits. Junior course, first term, 3 hours a week. Lecturer and Preceptor, Professor Elderkin.

302. Mediaeval Art. A general outline of the history of Early Christian, Byzantine, Romanesque, and Gothic sculpture, painting, and the minor arts. Lectures and required reading. In this course the preceptorial reading consists of: Lowrie: **Monuments of the Early Church;* Herbert: **Illuminated Manuscripts;* Marriage: **Sculptures of Chartres Cathedral;* Mâle: *Religious Art in France in the Thirteenth Century;* Michel: *Histoire de l'Art Chrétien;* Gonse: *l'Art Gothique;* Taylor: *The Mediaeval Mind.* [Books marked with an asterisk are used by all students of the course.] A thesis is required of candidates for Final Special Honors on one of the following subjects: The

Use of the Apocryphal Gospels in Early Christian Art; The Mosaics of Rome and Ravenna; The Romanesque Style in Illuminated Manuscripts; Ecclesiastical Symbolism in the Thirteenth Century; The Crucifixion in Mediaeval Art; Mediaeval Monuments in the Princeton Art Museum; Mediaeval Monuments in the Metropolitan Museum. Junior course, second term, 3 hours a week. Lecturer and Preceptor, Professor Morey.

303. Ancient Architecture. A course in the history of Egyptian, Assyrian, Persian, Greek, and Roman architecture. Two hours of lectures and one of historical drawing and reading. In this course the preceptorial reading consists of Statham: **A Short Critical History of Architecture;* Sturgis: **History of Architecture*, vol. I; Anderson and Spiers; **Architecture of Greece and Rome;* Simpson: *History of Architectural Development* (vol. I, chaps. I-VII); Choisy: *Histoire de l'Architecture,* vol. I; Benoit: *l'Architecture: Antiquité;* or Borrmann and Neuwirth: *Geschichte der Bankunst,* I. [Books marked with an asterisk are used by all students of the course. Extra reading is required of candidates for Final Special Honors.] Junior course, first term, 3 hours a week. Prerequisite to 407, 408, Elements of Architecture. Lecturer, Professor Butler; Preceptors, Professors Butler and Elderkin.

304. Mediaeval Architecture. The history of Early Christian, Byzantine, Romanesque and Gothic architecture. Two hours of lectures and one of historical drawing and reading. In this course the preceptorial reading consists of: Porter: **Mediaeval Architecture;* Moore: **Gothic Architecture;* Simpson: *History of Architectural Development;* Bond: *Gothic Architecture in England; English Church Architecture;* Choisy: *His-*

toire de l'Architecture, vol. II; Lasteyrie: *l'Architecture Romane;* or Borrmann and Neuwirth: *Geschichte der Bankunst,* II. [Books marked with an asterisk are used by all students of the course. Extra reading is required of candidates for Final Special Honors.] Junior course, second term, 3 hours a week. Prerequisite course: 303. Ancient Architecture. Lecturer, Professor Butler. Preceptors, Professors Butler and Morey.

305, 306. Architectural Drawing. A course in shades and shadows and perspective given from the architectural point of view, and offered especially to students intending to prepare for the future study and practice of architecture as a profession. All the common architectural elements are considered, with their shadows, in plan elevation and section; and in the second term particular attention is paid to perspective and to the drawing of the Classic Orders. Junior course, both terms, two hours of lectures and one of instruction in drawing each week. Prerequisite to the drawing section of 407, 408. Elements of Architecture. Lecturer and Instructor in drawing, Mr. Morgan.

*401. Italian Sculpture. A general survey of Italian sculptoin of 407, 408. Elements of Architecture. Lectures and required reading. Preceptorial reading will be selected from such works as: Perkins: *Historical Handbook of Italian Sculpture;* Balcarres: *Evolution of Italian Sculpture;* Marcel Reymond: *La Sculpture Florentine;* Michel: *Histoire de l' Art Chrétien;* Bode: *Italienische Plastik;* and from monographs devoted to special sculptors. Candidates for Final Special Honors will be required to write a thesis on some such topic as the following: 1. The Façade of Orvieto

* Also listed as a graduate course.

Cathedral; 2. The Sculptures of Or San Michele; 3. The Madonnas of Luca della Robbia; 4. The Paduan Work of Donatello; 5. The Sculptures of S. Maria dei Miracoli, Venice; 6. The Medici Tombs. Senior course, first term, 3 hours a week. Prerequisite: one of the junior courses in Art and Archaeology. Lecturer and Preceptor, Professor Morey.

*402. Greek Sculpture. A study of the technique, forms, composition and history of Greek sculpture. Lectures and required reading. Preceptorial reading will be selected from Gardner: *Handbook of Greek Sculpture;* Collignon: *Histoire de la Sculpture Grecque;* Joubin: *La Sculpture Grecque;* and from more special monographs. Candidates for Final Special Honors will be required to write a thesis on some such topic as: 1. Grave Stelae and Literary Epitaphs; 2. Significance of Decorative Sculpture; 3. The Female Figure in Free Sculpture; 4. The Ludovisi Throne. Senior course, second term, 3 hours a week. Prerequisite course, Ancient Art, 301. Lecturer and Preceptor, Professor Elderkin.

*405. The Revival of Painting in Italy. An outline history of painting in Italy from Cavallini to Michelangelo, with especial regard to the Florentine School. Lectures and required reading. Preceptorial reading: Brown and Rankin: *A Short History of Italian Painting;* selections from general and special treatises. Candidates for Final Special Honors will be assigned extra reading and are expected to prepare a thesis, of which the following are given as typical examples: 1. St. Jerome and St. Augustine in Fifteenth Century Painting; 2. The Annunciation in the Florentine and Sienese School; 3. Herod's Feast in Italian Painting; 4. The

* Also listed as a graduate course.

School of Ferrara; 5. Umbrian Painting from 1450 to the Death of Perugino; 6. Three Sienese Painters of the Early Renaissance, Sassetta, Matteo di Giovanni, Francesco di Giorgio; 7. Raphael's Origins and Early Work to the Year 1507; 8. An Interpretation of the Mythological Paintings of Titian; 9. The Work of Piero della Francesca; 10. Masaccio; 11. The Dante Illustrations of Botticelli. Senior course, first term, 3 hours a week. Prerequisite course: one of the junior courses in Art and Archaeology. Lecturer, Professor Mather. Preceptors, Professors Mather and Morey.

*406. Northern Painting. Especial attention will be given to the Flemish School, but the chief painters of the Dutch School will be studied, and a few lectures on typical French and English masters of the nineteenth century will treat the leading modern tendencies in the light of their historic origins. Lectures and required reading. Preceptorial reading, from general and special treatises. Extra reading required of candidates for Final Special Honors, who will also be assigned topics for theses similar to those required in course 405. Senior course, second term, 3 hours a week. Prerequisite course: one of the junior courses in Art and Archaeology. Lecturer, Professor Mather. Preceptors, Professors Mather and Morey.

*407, 408. Elements of Architecture. The classic orders of Ancient and Renaissance architecture, studied in their historical development, from reproductions of the ancient monuments, from the text of Vitruvius, and from the works of Vignola and Palladio. This course includes drawing to scale, with shades and shadows, and exercises in historical design. Lectures, preceptorial reading, and drawing. Preceptorial reading,

* Also listed as a graduate course.

Anderson and Spiers: *Architecture of Greece and Rome;* Marquand: *Greek Architecture.* Candidates for Final Special Honors are required to present a thesis which shall show familiarity with the classical monuments as published in such works as Stuart and Revett: *Athens;* Laloux and Monceaux: *Olympie;* Defrasse and Lechat: *Epidaure;* etc. Preceptorial reading for the second term will consist of selections from Anderson: *Renaissance Architecture in Italy;* Moore: *Character of Renaissance Architecture,* and from more special treatises. Students who select Design in preference to preceptorial reading will be required to submit a stated number of plates. Candidates for Final Special Honors who select Design must present an extra thesis plate showing special knowledge of classic and renaissance architecture. Senior course, both terms, 3 hours a week. Prerequisite course, Ancient Architecture, 303. Lecturer, Professor Butler. Preceptors, Professors Butler and Morey.

FINAL SPECIAL HONORS

Candidates for Final Special Honors in Art and Archaeology must in sophomore year have made a first or second general group, or if in the third general group, they must have obtained a first or second group in such courses in classics or modern languages as they may have taken. During the junior and senior years they are required to take at least two courses each term in this Department. They shall follow the regular lectures, take the regular tests, and a final comprehensive examination, but shall be segregated for preceptorial reading, and in certain courses prepare a written thesis on an assigned subject.

For graduate courses in Art and Archaeology, see under the Graduate School.

B. DIVISION OF LANGUAGE AND LITERATURE

V. DEPARTMENT OF CLASSICS

DEAN WEST, PROFESSORS WESTCOTT, ROBBINS, PRENTICE, CAPPS, STUART, ABBOTT, DAVID MAGIE, JR., BASORE, HUTSON, HARMON, FOX, JOHNSON, DURHAM, AND SCOON; DR. MIEROW, DR. KEYES, MR. MILLER, DR. DEAN, DR. DEFERRARI, AND MR. WILLIAMS.

FRESHMAN AND SOPHOMORE YEARS

101. Herodotus and Lucian. Selected portions of Herodotus and the *Vera Historia* of Lucian will be read by the whole class and in addition a course of lectures on certain topics in Greek life and literature will be given to the class by Professor Prentice. Freshman course, required for the degree of A.B., first term, 4 hours a week. Professors Stuart, Hutson, Harmon, Johnson and Durham.

102. Thucydides and Demosthenes. Parts of Thucydides and the *Philippics* of Demosthenes will be read. Freshman course, required for the degree of A.B., second term, 4 hours a week. Professors Prentice, Harmon, Hutson, Fox, Johnson and Durham.

103. Selections from the Historical Literature of Rome: Livy, Sallust, and Cicero. One hour a week will be devoted to Latin composition and drill in Latin grammar. Freshman course, required of all candidates for the degrees of A.B., Litt.B., and B.S., first term, 4 hours a week. Professors Westcott, David Magie, Jr., Basore, Fox, Johnson, Durham, and Scoon; Mr. Jones; Dr. Mierow, Mr. Miller, Dr. Keyes, Dr. Dean, Mr. Williams, and Dr. Deferrari.

104. Selections from the Historical Literature of Rome: Tacitus, Pliny the Younger. One hour a week will be devoted, with the two upper divisions, to the study

of Roman History; with the lower, to Latin composition and drill in Latin grammar. Freshman course, required of all candidates for the degrees of A.B., Litt.B., and B.S., second term, 4 hours a week. Professors David Magie, Jr., Westcott, Basore, Fox, Johnson, Durham, and Scoon; Mr. Jones; Dr. Mierow, Mr. Miller, Dr. Keyes, Dr. Dean, Mr. Williams, and Dr. Deferrari.

201. Greek Tragedy. Selected plays. Lectures on the development of the drama, on the presentation of plays, on the authors and their works. Sophomore course, required of candidates for the degree of A.B., first term, 3 hours a week. Professors Robbins, Capps, Hutson, and Fox.

202. The Odyssey. Selections from the Odyssey will be read, and its structure studied. Lectures and assigned readings in the history of the epic and the romance. Sophomore course, elective for candidates for the degree of A.B., second term, 3 hours a week. Professor Robbins.

203. Roman Comedy. Reading of selected plays of Plautus and Terence. Sophomore course, elective for candidates for the degree of A.B., required alternative for candidates for the degrees of Litt.B. and B.S., first term, 3 hours a week. Professors Stuart, Magie, Basore, and Scoon; Dr. Mierow, Mr. Miller, Dr. Keyes, and Dr. Dean.

204. Horace and Catullus. Horace: Odes and Satires; Catullus: Selections. Sophomore course, required for candidates for the degree of A.B., required alternative for candidates for the degrees of Litt.B., and B.S., second term, 3 hours a week. Dean West, Professors Stuart, Hutson, Basore, Fox, Johnson, Durham, and Scoon; Dr. Mierow and Mr. Miller.

JUNIOR AND SENIOR YEARS

317. Latin Literature of the Republic. Study of the development of the Latin language, of the national character, of the several literary forms and of Greek influence. Assigned reading chiefly from Ennius, Plautus, Terence, Lucilius, Varro, Cicero, Sallust and Catullus. Junior course, first term, 3 hours a week. Professor Durham.

Candidates for Honors will have additional reading in some of the authors, and collateral reading in Sellar: *Roman Poets of the Republic;* Tyrrell: *Latin Poetry,* and other books.

318. Roman Literature of the Empire. One lecture, two recitations weekly. The lectures will give a general survey of the history of Roman literature from Augustus to Marcus Aurelius. The other hours will be devoted to the study of representative works of this period, the purpose, construction and literary qualities of which will be discussed by the students. Junior course, second term, 3 hours a week. Professor Scoon.

Candidates for Honors will be required to read further portions of the works of the authors studied by the rest of the class, as well as selections from other writers of this period, and to present written reports in connection with their reading.

306. Roman History to 400 A.D. Special attention will be given to the study of Roman imperialism, and the main governmental, economic, social, and religious developments in the Republic and the Empire. A reading knowledge of Greek and Latin will not be required. Lectures, class reports, and conferences. Junior course, second term, 3 hours a week. (May count as a course in History). Professor Johnson.

307. Roman Satire. This course will deal mainly with the Satires and the Epistles of Horace and with the Satires of Juvenal. In reading Horace his philosophy of life and the construction of his Satires will be especially studied. In the work on Juvenal the class will consider particularly the poet's attitude as a moralist and as a portrayer of Roman life under the Empire. Junior course, first term, 3 hours a week. Professor Stuart.

Candidates for Honors will be expected to read the Satires and Epistles of Horace entire and selections from Juvenal in addition to the assignment for the whole class; collateral reading in English and occasional written reports will also be required.

308. Latin Philosophical Essays. Reading and discussion of Books I, II, and V of the Tusculan Disputations of Cicero and of selected essays of Seneca. Study of the tendency of Roman philosophy and of the character and the value of Cicero's contributions to philosophical literature. Junior course, second term, 3 hours a week. Professor Basore.

Candidates for Honors will also read part of the Cicero, *De Officiis* and Books III and IV of the Tusculan Disputations.

305. Greek History. Two lectures will be given each week on Greek History, from the earliest times to the Roman conquest. The third hour will be devoted to preceptorial conferences on reading, in English books, on special topics such as the Methods of Historical Investigation, Historical Criticism, the Value of the Ancient Tradition, Other Sources of Historical Knowledge, etc. Junior course, first term, 3 hours a week. A reading knowledge of Greek and Latin will not be required. (May count as a course in History). Professor Prentice.

313. Greek Comedy. Lectures on the origin and development, form and content of Greek comedy. Two plays of Aristophanes will be studied closely, and a third read rapidly. Junior course, first term, 3 hours a week. Professor Harmon.

Candidate for Honors will also read the *Birds* of Aristophanes, the *Epitrepontes* of Menander, and a few of the most significant fragments of lost plays.

314. Greek Tragedy. Two plays of each author will be translated and interpreted in class and their literary qualities, dramatic construction, and stage-setting studied. Lectures will be given on Greek Tragedy and collateral reading assigned. Junior course, second term, 3 hours a week. Professor Robbins.

Candidates for Honors will read one additional play of each poet in the original and several in translation. Readings in Butcher, Capps, Murray, and Symonds will also be assigned.

319. Theocritus. Reading of Theocritus, Bion, and Moschus. The development of pastoral poetry in Latin and modern literature will be studied. Junior course, first term, 3 hours a week. Professor Johnson.

320. Plato. One or more short dialogues entire, with substantial portions of others: *Protagoras, Phaedo, Phaedrus, Gorgias, Republic.* Study of form, style, and philosophic content. Junior course, second term, 3 hours a week. Professor Hutson.

*401. Lucretius. Reading of selected books of the *De Rerum Natura* with regard for the philosophic and literary aspects of the poem. Two hours weekly will be devoted to translation and intensive study, one hour of preceptorial character to the discussion of the contents of larger assignments in the authors. Required

* Also listed as a graduate course.

collateral reading. Senior course, first term, 3 hours a week. Professor Basore.

Candidates for Honors will read the entire poem, will have additional collateral reading assigned to them, and will make written reports from time to time.

402. Roman Elegiac Poets. Lectures on the history of the elegy; reading of selections from Tibullus, Propertius, and from the *Amores* of Ovid. Senior course, second term, 3 hours a week. Professor Stuart.

Candidates for Honors will be expected to read the Corpus Tibullianum, Propertius, and the *Amores* of Ovid entire; also selections from the Greek writers of elegy and from the *Heroides* of Ovid. Collateral reading and written reports will be required.

*413. Tacitus. Reading of the Histories entire, with special attention to the author's style as a writer, and his aims, methods and sources as a historian. Senior course, first term, 3 hours a week. Professor Westcott.

Candidates for Honors will also read the last six lives of the Caesars by Suetonius, Plutarch's *Galba* and *Otho,* Pliny's *Letters to Tacitus,* and Henderson's *Civil War and Rebellion in the Roman Empire.*

414. Cicero's Political Writings. Study of Cicero's *De Republica* and *De Legibus,* together with some of his speeches and letters which best illustrate his political theories and practice. Assignments for collateral reading in books dealing with Cicero's life and with Roman public law and religion. Senior course, second term, 3 hours a week. Professor David Magie, Jr.

Candidates for Honors will also be required to read additional speeches having political significance, as well as portions of Polybius, Book VI, and other works which present parallels to Cicero's political

* Also listed as a graduate course.

treatises, and, in connection with the *De Legibus*, the fragments of the *Twelve Tables* and the text of the most important laws. Written reports in connection with the reading will also be required.

415. Greek Lyric Poets. A survey of Greek lyric poetry from the seventh century to the third century, with extensive reading in the elegiac, iambic and melic poets. Senior course, first term, 3 hours a week. Professor Robbins. [Not given in 1915-1916.]

Candidates for Honors who elect this course will read about 1000 lines in Pindar and Bacchylides in addition to the work assigned to the others and will prepare a special report upon some selected author or subject.

*416. Aristotle. Books I, II, III, V, and X of the Nicomachean Ethics will be read. This work will be supplemented by lectures on Aristotle's place in the history of ethical thought and by a limited amount of collateral reading. Senior course, second term, 3 hours a week. Professor Fox.

Candidates for Honors will read Books I-VII, and X, and will be required to complete an extended programme of collateral reading.

*†416a. Thucydides (alternative to Aristotle 416). Books I-II of Thucydides' history will be read. Discussion will be devoted to such questions as the place of Thucydides in Greek Historiography, his authenticity, his sources and his style. Collateral reading will also be assigned to the members of the class. Senior course, second term, 3 hours a week. Professor Fox.

Candidates for Honors will also read Books III and IV of Thucydides and additional collateral reading.

* Also listed as a graduate course.
† Thucydides will be given in place of Aristotle only if elected by a sufficient number.

419. Greek Epic Poetry. The *Iliad* will be read in class, two hours each week, the entire *Iliad* being studied. The third hour will be given to lectures and conferences on the origin and development of the Greek Epics, the history of the text, Homeric antiquities, and historical problems connected with these poems. Collateral reading on special topics will be assigned, and reports made on these topics. Senior course, first term, 3 hours a week. Professor Prentice.

420. Virgil. A study of the literary methods and poetic art of Virgil; reading and discussion of selected portions of his works; occasional lectures. Senior course, second term, 3 hours a week. Professor David Magie, Jr.

*421, 422. Roman Law. The History and Institutes of Roman Law. Sohm: *Institutes of Roman Law,* English translation; Leage: *Roman Private Law.* Special attention will be given to the law of Obligations. Students in the Department of Classics, and others who desire to do so, will read the Institutes of Gaius and of Justinian in Latin. Senior course, both terms, 3 hours a week. Professor Westcott.

423. The Influence of the Classics in English Literature. The quality of English literature as variously determined by the influence of the classics; the spirit of the classics as manifest in the form and the content of English literature. Readings in Aeschylus, Plato, Aristotle, Theocritus, Bion, Moschus, Horace, Martial; Spenser, Milton, Herrick, Pope, Shelley, Wordsworth, Keats, Tennyson, Swinburne. Senior course, first term, 3 hours a week. Professor Osgood.

Honors readings, besides an extension of the readings in Plato, Spenser, Milton, and Swinburne, will

* Also listed as a graduate course.

include selections from Sophocles, Lucretius, Virgil, Mantuan, Dryden, Thomson, Landor, and assignments from the following works: Gordon: *English Literature and the Classics;* Livingstone: *The Greek Genius and its Meaning to Us;* Croiset: *Histoire de la Littérature Grecque,* vol. I; Osgood: *The Classical Mythology in Milton;* Norlin: *Conventions of the Pastoral Elegy;* Jebb: *Life of Bentley;* Mustard: *Classical Echoes in Tennyson.*

All junior and senior courses offered by the Department of Classics are open alike to candidates for Final Special Honors, to students enrolled under the general plan of study, who elect the Department, and to qualified students in other departments.

Students not candidates for Final Special Honors in Classics are not required to do the supplementary reading announced in connection with any of the courses described on the foregoing pages.

FINAL SPECIAL HONORS

Candidates for Final Special Honors in Classics must choose the two departmental courses required of them each term from the following list:

JUNIOR COURSES

First Term: Latin Literature 317, Horace's Satires and Epistles: Juvenal 307, Greek Comedy 313.

Second Term: Roman Literature 318, Latin Philosophical Essays 308, Greek Tragedy 314.

SENIOR COURSES

First Term: Lucretius 401, Tacitus 413, Greek Lyric Poets 415, Classical Influences 423.

Second Term: Roman Elegiac Poets 402, Cicero's Political Writings 414, Aristotle 416 (Thucydides 416a†).

† Thucydides will be given in place of Aristotle only if elected by a sufficient number.

Candidates for Final Special Honors in Classics are further required to do additional reading, both *special* and *general.* A definite assignment of special reading is to be completed each term in connection with one or the other (not both) of the two courses selected from the preceding list. A brief account of the scope of the special reading is appended to the description of these courses. A detailed statement of it may be had from either Professor Capps, Professor Robbins, or Professor Basore, with whom those who think of becoming candidates for Final Special Honors are advised to consult. The special reading is to be followed by the candidate under the supervision of the instructor giving the course, and the candidate's knowledge of the books assigned will be tested in a special examination at the end of that course.

A definite assignment of general reading is also to be completed during the two years of the student's candidacy. The candidate's progress will be informally tested from time to time, and at the end of his senior year his mastery of the books assigned will be tested by a final examination upon them. The prescribed general reading is as follows: (1) the *Iliad* of Homer; (2) the *Aeneid* of Virgil; (3) Whibley's *Companion to Greek Studies* (certain chapters to be omitted); (4) Sandys' *Companion to Latin Studies* (certain chapters to be omitted).

In the assignment of Final Special Honors, consideration will be given to the standing of the candidate in the eight departmental courses elected, in the examinations on the special reading pursued in connection with four of these courses, and in the final examination on the general reading.

In addition to the courses listed above, the Department offers the following courses, which are open to all qualified students. However, these courses may be taken by candidates for Final Special Honors in Classics only as free electives.

JUNIOR COURSES

First Term: Theocritus 319, Greek History 305.
Second Term: Plato 320, Roman History 306.

SENIOR COURSES

First Term: Homer 419, Roman Law 421.
Second Term: Virgil 420, Roman Law 422.

For graduate courses in Classics, see under the Graduate School.

VI. DEPARTMENT OF ENGLISH

PROFESSORS HUNT, *HENRY VAN DYKE, HARPER, PARROTT, COVINGTON, SPAETH, †OSGOOD, NOYES, GEROULD, GRIFFIN, LONG, MACDONALD, ROOT, ‡CROLL, MILES, KENNEDY, HEERMANCE, AND MURCH; MR. SHELLABARGER AND MR. STONE.

101, 102 *c*. Required course for C.E. freshmen. Three and for general reading. The principles of composition and rhetoric will be derived therefrom. Frequent reports on assigned reading. Freshman required course, both terms, 2 hours a week for A.B., Litt.B., and B.S. freshmen. Professor Croll. Preceptors, Professors Croll, Heermance, MacDonald, Miles and Root, Mr. Shellabarger and Mr. Stone.

101, 102, *b*. To freshmen who enter the Cliosophic or the American Whig Society there is offered, as a substitute for 101, 102, *a*, an elective course in Public Speaking and Debate. Freshman course, both terms, 2 hours a week for A.B., Litt.B., and B.S. freshmen. Professor Covington, assisted by Mr. Stone.

101, 102 *c*. Required course for C.E. freshmen. Three

* Absent on leave.
† Absent on leave, second term.
‡ Absent on leave, first term.

hours a week. Two hours a week will be given to the special study and general reading of selected English authors, with frequent reports on assigned reading; the third hour to rhetoric and composition, with special attention to technical writing. Mr. Stone.

201, 202. Outline Sketch of English Literature. A survey of English literature from earliest times to the Victorian Age. Occasional lectures; oral and written recitations; reports on required reading. The reading in this course is designed to illustrate the various periods in the history of English literature. Sophomore elective, both terms, 3 hours a week. Lecturers, Professors Spaeth and Kennedy; Preceptors, Professors Gerould, Griffin, Kennedy, Long, and Murch.

301. English Literature: The Renaissance. The revival of learning, the Reformation, the national awakening under the Tudors, and the influence of Italy, in their

302. English Literature: Shakespeare. A study of some of Shakespeare's representative plays. Reference books: Dowden: *Shakespeare, His Mind and Art;* Boas: *Shakespeare and His Predecessors.* Junior course, second term, 3 hours a week. Lecturer, Professor Harper or Professor Parrott; Preceptors, Professors Croll, Heermance, MacDonald, Miles, Root.

303. Chaucer and his Contemporaries. Lectures on Chaucer, his period, his language, and his contemporaries. The reading will include the greater part of Chaucer's

JUNIOR COURSES

First Term: Theocritus 319, Greek History 305.
Second Term: Plato 320, Roman History 306.

SENIOR COURSES

First Term: Homer 419, Roman Law 421.
Second Term: Virgil 420, Roman Law 422.

For graduate courses in Classics, see under the Graduate School.

VI. DEPARTMENT OF ENGLISH

PROFESSORS HUNT, *HENRY VAN DYKE, HARPER, PARROTT, COVINGTON, SPAETH, †OSGOOD, NOYES, GEROULD, GRIFFIN, LONG, MACDONALD, ROOT, ‡CROLL, MILES, KENNEDY, HEERMANCE, AND MURCH; MR. SHELLABARGER AND MR. STONE.

101, 102 *c*. Required [illegible]

[illegible] study

[illegible] and Mr. Stone.

101, 102, *b*. To freshmen who enter the Cliosophic or the American Whig Society there is offered, as a substitute for 101, 102, *a*, an elective course in Public Speaking and Debate. Freshman course, both terms, 2 hours a week for A.B., Litt.B., and B.S. freshmen. Professor Covington, assisted by Mr. Stone.

101, 102 *c*. Required course for C.E. freshmen. Three

* Absent on leave.
† Absent on leave, second term.
‡ Absent on leave, first term.

hours a week. Two hours a week will be given to the special study and general reading of selected English authors, with frequent reports on assigned reading; the third hour to rhetoric and composition, with special attention to technical writing. Mr. Stone.

201, 202. Outline Sketch of English Literature. A survey of English literature from earliest times to the Victorian Age. Occasional lectures; oral and written recitations; reports on required reading. The reading in this course is designed to illustrate the various periods in the history of English literature. Sophomore elective, both terms, 3 hours a week. Lecturers, Professors Spaeth and Kennedy; Preceptors, Professors Gerould, Griffin, Kennedy, Long, and Murch.

301. English Literature: The Renaissance. The revival of learning, the Reformation, the national awakening under the Tudors, and the influence of Italy, in their effect upon English letters. Spenser, Sidney, and Marlowe will be studied. Attention will be paid to the history of the drama and of lyric poetry, and to the narrative of Elizabethan voyagers. Junior course, first term, 3 hours a week. Lecturer, Professor Miles; Preceptors, Professors Croll, Heermance, MacDonald, Miles.

302. English Literature: Shakespeare. A study of some of Shakespeare's representative plays. Reference books: Dowden: *Shakespeare, His Mind and Art;* Boas: *Shakespeare and His Predecessors.* Junior course, second term, 3 hours a week. Lecturer, Professor Harper or Professor Parrott; Preceptors, Professors Croll, Heermance, MacDonald, Miles, Root.

303. Chaucer and his Contemporaries. Lectures on Chaucer, his period, his language, and his contemporaries. The reading will include the greater part of Chaucer's

poetry, together with selections from Langland, Gower, Wyclif, and the author of *Sir Gawaine and the Green Knight.* A thesis of considerable length, embodying the results of independent investigation, conducted under the guidance of the preceptors, will be required of every student. One hour a week will be devoted to lectures and two hours a week to preceptorial conferences. Skeat: *Student's Chaucer;* Skeat: *Piers, the Plowman.* A handbook dealing with the period will also be used. Junior course, first term, 3 hours a week. Lecturer, Professor Gerould; Preceptors, Professors Griffin, Kennedy, Long, Murch.

304. History of the English Language. Lectures on the general principles of linguistic development, and on the history, vocabulary, and structure of the English language. Junior course, second term, 3 hours a week. Lecturer, Professor Spaeth; Preceptors, Professors Croll, Hunt, MacDonald, Miles, Root.

*401. Restoration and Eighteenth Century Literature. Discussion of leading poets and prose writers from Dryden to Burns, with especial emphasis on the rise of the Romantic School. Senior course, first term, 3 hours a week. Lecturer, Professor Root; Preceptors, Professors Gerould, Griffin, Kennedy, Long, Murch.

402. Seventeenth Century Literature. Lectures on the poets and prose writers during the age of Milton. The assigned reading will include the larger part of Milton's poetry, his *Areopagitica,* his *Letter on Education,* Browne's *Religio Medici,* Walton's *Compleat Angler,* and selections from the Cavalier poets. Senior course, second term, 3 hours a week. Lecturer, Professor Harper; Preceptors, Professors Gerould, Griffin, Kennedy, Long, Murch.

* Also listed as a graduate course.

*403. English Romanticism. A literary study of the chief writers of the early part of the Nineteenth Century. Senior course, first term, 3 hours a week. Lecturer, Professor Spaeth; Preceptors, Professors Gerould, Griffin, Kennedy, Long, Murch.

*404. English Literature of the Victorian Period. A study of some of the leading British and American writers of the Victorian period. Senior course, second term, 3 hours a week. Lecturer, Professor Noyes; Preceptors, Professors Gerould, Griffin, Kennedy, Long, Murch.

*405. Elementary Old English. A grammatical and phonological study of Old English, with readings mainly from Old English prose literature. Smith: *Old English Grammar;* Bright: *Anglo-Saxon Reader.* Senior course, first term, 3 hours a week. Prerequisite to English 406. Professor Hunt; Preceptors, Professors Croll, Miles, Root.

*406. Advanced Old English. Selections, mainly poetical, from Old English literature will be read, under direction of the professor in charge and the preceptors, two hours a week. One hour a week will be devoted to lectures by the professor in charge on historical and critical topics. Bright's *Anglo-Saxon Reader* and Wyatt's *Beowulf* will be the basis for selections. A thesis will be required. Senior course, second term, 3 hours a week. Prerequisite course: English 405. Lecturers, Professors Hunt and Kennedy; Preceptors, Professors Gerould and Griffin.

407, 408. Advanced Composition. This course is intended for those who desire special training in English composition. It is open both to departmental students, and to those who have not elected the department,

* Also listed as a graduate course.

but only those will be admitted who, in the opinion of their instructors in English during the first three years, are likely to profit by it, and are qualified to do the work. The course will be conducted in groups, and the individual student will be expected to practise composition in the particular form best suited to his powers and needs. Such forms may include the Essay, Argument, Narrative, Dramatic Writing, and Verse. Senior course, both terms, 3 hours a week. Professor MacDonald, and Preceptors.

409. (Classics 423.) The influence of the Classics in English Literature. The quality of English literature as variously determined by the influence of the classics; the spirit of the classics as manifest in the form and the content of English literature. Reading in Aeschylus, Plato, Aristotle, Theocritus, Bion, Moschus, Horace, Martial; Spenser, Milton, Herrick, Pope, Shelley, Wordsworth, Keats, Tennyson, Swinburne. Senior course, first term, 3 hours a week. Professor Osgood.

410. Poetics. A study of the theory of poetry in Aristotle and other representatives of ancient opinion, and in certain representatives of modern thought. The nature of the greater forms of poetic art, epic, drama, and lyric, and the conditions under which each develops. Senior course, second term, 3 hours a week. Professor Croll.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of English may become candidates for Final Special Honors, in accordance with the general regulations for Final Special Honors. The special regulations are as follows:

A candidate for Final Special Honors in English must take the following courses:

Junior Year

First term: 301. English Literature of the Renaissance
303. Chaucer and his Contemporaries

Second term: 302. Shakespeare
304. History of the English Language.

Senior Year

First term: Two courses, one of which must be chosen from courses 405, 407, 409.

Second term: Two courses, one of which must be chosen from courses 406, 408, 410.

Each candidate shall adopt a consistent, definite, and properly limited plan of study beyond the scope of his course.

At the end of senior year each candidate shall pass an examination based upon all his work in English during junior and senior years.

Each candidate shall follow a prescribed course of reading in extension of the work of each course. At the final comprehensive examination the candidate must present a general knowledge of English history and of the history of the English language and literature.

The special work for Honors should be chiefly either in literature or in linguistics, as follows:

LITERATURE

A candidate wishing to specialize in Literature shall select for intensive study during junior and senior years one of the following topics:

1. Old English Literature
2. Middle English Literature
3. English Literature of the Renaissance
4. A Single Period of English Literature since 1642
5. English Literature and Political History.
6. English Literature and Philosophy
7. English Literature and French, or German, or Italian Literature

8. English Literature and the Classics
9. Theories of Poetry and Fine Art
10. The Development of a Single Literary Form

Note on Topics 1-4. In connection with any of these topics the candidates shall follow a course of reading illustrating the English philosophy and history of the period, and the origins of its main tendencies.

Note on Topics 5-8. As these topics present English literature particularly in its relation to other subjects, a candidate's choice will usually relate itself to his choice of courses outside of the Department.

Note on Topic 7. As the relations of English literature to these others vary in importance from period to period, the candidate may include more than one of them in his plan, or may confine himself to a more intensive study of one of them in a particularly significant period; such as, for example, English Literature and French Literature in the Eighteenth Century; English Literature and Italian Literature in the Sixteenth Century.

LINGUISTICS

A candidate wishing to specialize in Linguistics shall read selected books on the phenomena of language, on the relation of English to kindred languages, and on the elements of style.

His intensive study shall have as its subject the relation of English to one other language, or the language and style of some selected author.

The candidate shall from time to time in each term report progress in his special reading to his preceptor, and shall do such writing in connection with it as his preceptor shall prescribe.

A statement of Honors reading will be issued.

For graduate courses in English, see under the Graduate School.

VII. DEPARTMENT OF MODERN LANGUAGES

PROFESSORS VREELAND, GAUSS, BUFFUM, COLLINS, HOSKINS, BLAU, PRIEST, CRITCHLOW, KOREN, THAYER, MATHEWS, STUART, AND BENDER; DR. MOSELEY, MR. CHAPMAN, MR. BRENNER, MR. GREENE, MR. MC CONNELL AND DR. WALLACE.

GERMANIC SECTION

101, 102. Beginners' German. Grammar, reading and composition. Freshman course, both terms, 3 hours a week. Professor Hoskins, Dr. Wallace, and Mr. Brenner.

103, 104. German Prose and Poetry. Reading of selected works with drill in grammar and exercises in composition. Freshman course, both terms, 3 hours a week. Prerequisite course: Entrance German A. Prerequisite to Sophomore German. Professor Bender, Dr. Wallace, and Mr. Brenner.

105, 106. Advanced German for Freshmen. Reading of historical, descriptive, and narrative prose, with exercises in composition. Texts are selected to form a general introduction to the study of modern German life and letters. Open to freshmen who have entered on German B. Both terms, 3 hours a week. Either German 105, 106 or 203, 204 is prerequisite to the German courses of junior and senior years. Professor Thayer.

201, 202. Beginners' German. Grammar, reading, and composition. Sophomore elective course, both terms, 3 hours a week. Professor Hoskins, Dr. Wallace, and Mr. Brenner.

203, 204. Sophomore German. An introduction to German literature of the eighteenth and nineteenth centuries. Reading of selected works; collateral read-

ing. Sophomore elective course, both terms, 3 hours a week. Prerequisite course: German 103, 104, or entrance German B. Either German 203, 204, or 105, 106 is prerequisite to the German courses of junior and senior years. Professors Priest and Thayer, and Dr. Wallace.

301, 302. German Literature from Opitz to Schiller. First term: selected works of Lessing will be read and interpreted in the class; collateral reading in both German and English. Second term: selected works of Schiller; collateral reading in both German and English; lectures on German literature from Lessing's death to Schiller's death. Reference books: Scherer's, Robertson's and Francke's histories of German literature. Junior course, both terms, 3 hours a week. Prerequisite course: German 105, 106 or 203, 204. Professors Hoskins and Priest.

303, 304. Goethe's Life and Works. Lectures and reading. *Götz von Berlichingen, Werthers Leiden, Iphigenie, Tasso, Hermann und Dorothea, Faust, Gedichte, Dichtung und Wahrheit,* with collateral reading. Reference books: English and German works on Goethe's life and on *Faust.* Junior course, both terms, 3 hours a week. Prerequisite course: German 105, 106 or 203, 204. Professor Blau.

401, 402. The Romantic School in Germany and German Literature since Goethe's Death. This course comprises the reading of selected works, lectures, and collateral reading. Senior course, both terms, 3 hours a week. Prerequisite course: German 105, 106 or 203, 204. Professor Thayer.

403, 404. Middle High German. Elements of Middle High German grammar. Readings in mediaeval German epic poetry in the first term, and in the epic

and lyric poetry of the same period in the second term. Senior course, both terms, 3 hours a week. Prerequisite course: German 105, 106 or 203, 204. Professor Hoskins.

ROMANIC SECTION

101, 102. Beginners' French. Grammar, composition, and reading. Aldrich and Foster: *Grammar*. Freshman course, both terms, 3 hours a week. Professor Mathews, Dr. Moseley, Mr. Chapman, and Professor Koren.

103, 104. Freshman French. This course consists of reading and practical exercises in French syntax and composition, and collateral reading. Freshman course, both terms, 3 hours a week. Prerequisite course: Entrance French A. Prerequisite to Sophomore French. Professors Buffum, Critchlow, and Mathews; Dr. Moseley, Mr. Chapman, and Mr. Greene.

105, 106. Advanced French for Freshmen. Reading of selected texts and thorough drill in the use of the language, its pronunciation and idioms. The course aims at giving the student proficiency in the use of the language and a desirable introduction to the advanced study of French civilization or French literature. Open to freshmen who have entered on French B. Both terms, 3 hours a week. Either French 105, 106, or 203, 204 is prerequisite to the French courses of junior and senior years. Professors Mathews, Buffum, and Gauss, and Mr. Chapman.

201, 202. Beginners' French. Grammar, composition, and reading. Aldrich and Foster: *Grammar*. Sophomore elective, both terms, 3 hours a week. Professor

Mathews, Dr. Moseley, Mr. Chapman, Mr. Greene, and Professor Koren.

203, 204. Sophomore French. General introduction to the study of French literature. This course consists of a general survey of French literature, based on textbooks, with a study of representative works of different periods. Sophomore elective, both terms, 3 hours a week. Prerequisite course: French 103, 104, or Entrance French B. Prerequisite to French 301, 302; 401, 402, 403, 404, 405, 406. Professors Vreeland, Stuart, Collins; Preceptors, Professors Vreeland, Stuart, Collins, and Koren, and Mr. Chapman.

301, 302. French. French Classical Literature. A study of the drama, prose, and social characteristics of the Age of Louis XIV. Class and preceptorial reading, written reports, and occasional lectures. Junior course, both terms, 3 hours a week. Prerequisite course: French 105, 106 or 203, 204. Professor Collins.

305. Italian. Grammar, composition, and reading. Grandgent: *Italian Grammar.* Junior course, first term, 3 hours a week. Prerequisite to Italian 306. Professor Koren.

306. Italian. Reading of the *Inferno* of Dante. Scartazzini: *La Divina Commedia di Dante Alighieri.* Junior course, second term, 3 hours a week. Prerequisite course: Italian 305. Prerequisite to Italian 405. Professor Gauss and Dr. Moseley.

307, 308. Spanish. Grammar, composition, and reading from modern Spanish authors. Junior course, both terms, 3 hours a week. Prerequisite to Spanish 407, 408. Mr. McConnell and Professor Critchlow.

401, 402. French. The Romantic Movement. A literary study of the leading French poets and prose writers from Rousseau to Anatole France. Lectures and pre-

ceptorial reading. Senior course, both terms, 3 hours a week. Prerequisite course: French 203, 204. Professor Gauss.

403, 404. Old French. A study of the language and literature of France from its origin to the Renaissance. This course consists of a general survey of the history of the language, and of the extensive reading of texts with special attention to their literary side. Senior course, both terms, 3 hours a week. Prerequisite course: French 203, 204. Professor Buffum.

405. French Literature of the Eighteenth Century. This course includes a general survey of French literature from 1715 to the end of the eighteenth century, with a special study of Voltaire's relations to his times, the Encyclopédie, Diderot, J. J. Rousseau, and the new literature after him. Senior course, first term, 3 hours a week. Prerequisite course: French 203, 204. Professor Stuart.

406. French Literature of the Sixteenth Century. This course is based on an extensive reading and selections from the sixteenth century French prose and poetry, with special attention given to Montaigne, Rabelais, and the Pléiade. It includes also a study of the Renaissance in France, and of the beginnings of Classicism. Senior course, second term, 3 hours a week. Prerequisite course: French 203, 204. Professor Vreeland.

407. Italian. Reading and literary study of the poets of the earlier period and the prose writers of the Renaissance. Senior course, first term, 3 hours a week. Prerequisite course: Italian 306. Prerequisite to Italian 408. Professor Gauss or Professor Koren.

408. Italian. Reading and literary study of the poets of the Renaissance and modern Italian authors. Senior course, second term, 3 hours a week. Prerequisite

course: Italian 407. Professor Koren or Dr. Moseley.

409. Spanish. General survey of Spanish literature and extensive readings from modern Spanish authors. Senior course, first term, 3 hours a week. Prerequisite courses: Spanish 307, 308. Prerequisite to Spanish 410. Mr. McConnell.

410. Spanish. Spanish literature of the Golden Age and readings from Cervantes, Calderón, and Lope de Vega. Senior course, second term, 3 hours a week. Prerequisite courses: Spanish 307, 308, 409. Mr. McConnell.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of Modern Languages may become candidates for Final Special Honors, in accordance with the general regulations for Final Special Honors. The special regulations are as follows:

Candidates for Final Special Honors will be enrolled in the regular courses of the Department but shall report in separate preceptorial groups.

1. *Honors Reading.* A. *Germanic Section:* Either additional intensive work along the lines of the regular courses, or specialized work in the following subjects:

a. The Drama
b. The Novel
c. Non-dramatic Poetry
d. Literary Criticism

[Note: A candidate for Final Special Honors must previously have taken Sophomore German 203-204.]

B. *Romanic Section:*

a. The Drama
b. The Novel
c. Non-dramatic Poetry
d. Criticism and Literary Theories
e. History and Memoirs

2. *Reports.* Candidates for Final Special Honors shall

make reports, written or verbal, at such times as may be required. At least one such report each term shall be in writing.

3. *Examinations.*

a. Candidates for Final Special Honors shall be required to pass the regular examinations at the close of each term in junior year, but the subject-matter of the extra reading on which they have made reports will not be embraced in these examinations.

b. Seniors in Honors work will be excused from the regular senior examinations in the Department, but a final comprehensive examination, to be given during the senior examination period and covering all the Honors work (that is, the two departmental courses and the additional reading) done during junior and senior years, will be given at the close of senior year.

c. This comprehensive examination shall consist of two sections, one of four hours, which shall cover the work done in the regular courses; and another one of four hours, which shall cover the work done in the candidate's special field of study.

d. An oral examination may also be given to Honors candidates at the close of senior year.

A statement of Honors reading will be issued.

For graduate courses in Modern Languages, see under the Graduate School.

COURSES NOT INCLUDED IN ANY OF THE PRECEDING DEPARTMENTS

HISTORY AND LITERATURE OF RELIGION

403, 404. Old Testament Literature. Origin, development, nature and content of the literature of the Old

Testament. First term: General introductory lectures upon religion and the Bible together with a study of the pre-exilic Old Testament literature. The reading includes several pre-exilic Old Testament writings, Addis: *The Hebrew Religion,* Kent: *History of the Hebrew People* (United Kingdom and Divided Kingdom). Second term: The exilic and post-exilic Old Testament literature. The reading includes several exilic and post-exilic Old Testament writings, Sabatier: *Philosophy of Religion,* Cornill: *The Prophets of Israel,* Kent: *History of the Hebrew People* (Babylonian, Persian and Greek Periods). Lectures and preceptorial conferences. Senior course, both terms, 3 hours a week. Professor Miller.

405, 406. New Testament Literature. Origin, development, nature and content of the literature of the New Testament. First term: General introductory lectures upon religion and the Bible together with a study of the four Gospels, the life and teaching of Jesus and the founding of Christianity. The reading includes the four Gospels, Mathews: *New Testament Times,* Cornill: *The Prophets of Israel,* Rhees: *Life of Jesus of Nazareth,* Percy Gardner: *An Historical View of the New Testament.* Second term: Introductory lectures and study of the Pauline and post-Pauline New Testament literature. The reading includes all the New Testament writings not read in the previous term, Sabatier: *Philosophy of Religion,* Ropes: *Apostolic Age,* Sabatier: *The Apostle Paul.* Lectures and preceptorial conferences. Senior course, both terms, 3 hours a week. Professor Miller.

*401, 402. Sanskrit. Senior course, both terms, 3 hours a week. Professor Robbins.

*407. History of Modern Science. This is a non-technical course in the development of scientific thought from the time of Copernicus and Galileo to the present. The course runs parallel to the courses in the history of philosophy and of literature and of political and social thought. The character and the influence of the great discoveries in Astronomy, Mechanics, Physics, Chemistry and Biology will be studied by means of lectures and reading. The general purpose of the course is to give both the technical and the non-technical student information and training in the meaning and historical results of scientific investigation in different fields. Senior course, first term, 3 hours a week. Professor Spaulding.

*401. History and Psychology of Education. This course is designed to meet the needs of students intending to teach. It presents the historical development of the educational principles and institutions which influence the present, and the applications of experimental psychology to the problems of teaching. Lectures and preceptorial work. Open to all students of psychology as an elective. Senior course, first term, 3 hours a week. Professor McComas.

402. Aesthetics, which treats of the Beautiful as Logic treats of the True and Ethics of the Good, aims to develop the appreciation of beauty, to establish a sound basis for the criticism of art, and indirectly to aid the artist in his creative work. Senior course, second term, 3 hours a week. Dr. Henry Rutgers Marshall.

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* Also listed as a graduate course.

C. DIVISION OF MATHEMATICS AND SCIENCE

VIII. DEPARTMENT OF MATHEMATICS

DEAN FINE, PROFESSORS *THOMPSON, EISENHART, VEBLEN, GILLESPIE, *BOUTROUX, MAC INNES, AND *WEDDERBURN; DR. DEDERICK, DR. ALEXANDER, DR. BENNETT, DR. DANIELS, MR. HILL, MR. ANDERSON, AND MR. WESTER

101. Plane Trigonometry. Hun and MacInnes: *Elements of Plane and Spherical Trigonometry.* Required of all freshmen who have not taken the subject for entrance. Half of first term, 4 hours a week. Professor Gillespie, Dr. Dederick, Dr. Daniels, Mr. Hill, Mr. Anderson, and Mr. Wester.

103. Selected portions of Algebra: Undetermined Coefficients, Division Transformation, Partial Fractions, Elementary Theory of Equations, Permutations and Combinations; Review of Plane Trigonometry; Elements of Spherical Trigonometry. Fine: *College Algebra;* Hun and MacInnes: *Elements of Plane and Spherical Trigonometry.* Required of all C.E. freshmen. All of first term, 4 hours a week. Professor Gillespie and Dr. Daniels.

105. Selected portions of Algebra. Division Transformation, Permutations and Combinations, Determinants, and Elementary Theory of Equations. Fine: *College Algebra.* Required of all freshmen who have not taken Plane Trigonometry for entrance. Half of first term, 4 hours a week. Professor Gillespie, Dr. Dederick, Dr. Daniels, Mr. Hill, Mr. Anderson, and Mr. Wester.

107. Selected portions of Algebra. Undetermined Coefficients, Division Transformation, Partial Fractions,

* Absent on leave.

Elementary Theory of Equations, Permutations and Combinations, and Determinants; Review of Plane Trigonometry. Fine: *College Algebra;* Hun and MacInnes: *Elements of Plane and Spherical Trigonometry.* Required of all A.B., Litt.B., and B.S. freshmen who have taken Plane Trigonometry for entrance. All of first term, 4 hours a week. Professor Fine, Dr. Alexander and Dr. Bennett.

108. Coördinate Geometry, treated from the Cartesian standpoint. Fine and Thompson: *Coördinate Geometry.* Required of all freshmen. All of second term, 4 hours a week. Professors Fine and Gillespie, Dr. Dederick, Dr. Alexander, Dr. Bennett, Dr. Daniels, Mr. Hill, Mr. Anderson, and Mr. Wester.

201, 202. Calculus. Elective course, open to all sophomores who are candidates for a bachelor's degree, both terms, 3 hours a week. Prerequisite to the Departments of Mathematics and Physics. Professors Gillespie and MacInnes; Dr. Dederick.

203, 204. Calculus. Required of all C.E. sophomores, first term, 5 hours a week, second term, 3 hours a week. Dr. Dederick and Dr. Daniels.

205, 206. Analytical Mechanics. Statics; equilibrium of forces, stresses in frames, centers of gravity, moments of inertia. Kinetics; of the particle and rigid body, energy and work, friction, impact. (In 1915-16 course 206 will also be given to the C.E. juniors in the first term, 3 hours a week.) Fuller and Johnston: *Applied Mechanics.* Required of all C.E. sophomores, first term, 3 hours, second term, 2 hours a week. Professor MacInnes.

303. Analytical Mechanics. Continuation of Analytical Mechanics 206. (In 1915-16 this course will not be

given in the first term but will be required of all C.E. juniors, second term, 3 hours a week.) Fuller and Johnston: *Applied Mechanics.* Required of all C.E. juniors, first term, 3 hours a week. Professor MacInnes.

305, 306. A. Geometry. Cördinate Geometry. The general equation of the second degree. Diameters and polars. Metric properties of conics. Coördinate systems in space. Transformation of coördinates. The general equation of the second degree and the classification of quadrics. Centers, conjugate diameters, and plane sections of quadrics. Generating lines. General properties of twisted curves and surfaces. Junior course, both terms, 3 hours a week. Professor Eisenhart.

307, 308. B. Analysis. Differential Equations and Advanced Calculus. Solution of ordinary equations of first and higher orders, of systems of ordinary equations and linear partial equations, of partial equations of the first order in one dependent and two independent variables. The line-element and singular solutions. Method of multipliers. Variation of parameters. Bessel's equation. Riccati's equation. Application to geometry, mechanics and the calculus of variations. General properties of continuous functions. Graphical study of uniform convergence. Integration of series. Integrals containing a parameter. Fourier series and some simple applications. Junior course, both terms, 3 hours a week. Professor Veblen.

309, 310 C. Analytical Mechanics. Mechanics. Kinematics. Laws of motion. Statics of particles and rigid bodies. Center of gravity. Work and energy. Stability and instability. Motion of particles under

constant and variable forces. Orbits. Motion of rigid bodies. Generalized coördinates and Lagrange's equations. Small oscillations. Junior course, both terms, 3 hours a week. Professor Gillespie.

401, 402. Advanced Calculus and Higher Algebra. Senior course, both terms, 3 hours a week. [Given in 1915-16 only.] Dr. Bennett.

*407, 408 a. Projective Geometry. The postulates of synthetic projective geometry. The relation of analytic to synthetic geometry. The principle of duality. Projectivity of one-dimensional forms. Elementary configurations. Conic sections and quadric surfaces. Linear congruences and complexes. Collineations in the plane and in space. Real and imaginary elements in geometry. Senior course, both terms, 3 hours a week. Professor Eisenhart.

*409, 410. b. Analysis. Continuation of 307, 308. Transformation of differentials. Line and surface integrals. Green's theorem. Improper definite integrals. Beta and Gamma functions. Elliptic integrals. Evaluation of special definite integrals, and applications to various problems. Mean value and probability. Elementary functions of the complex variable. Roots of unity. Conformal maps. Cauchy's theorem. Definite integrals. Poles and residues. Senior course, both terms, 3 hours a week. Professor Veblen.

*405, 406 a. Algebra. Theory of equations. Determinants. Linear dependence. Linear transformations. Matrices. Quadratic and bilinear forms. Elementary divisors. Factorization of polynomials. Senior course, both terms, 3 hours a week. Professor Fine [Not given, 1915-1916.]

A departmental student who is not a candidate for Final Special Honors in Mathematics shall take two

* Also listed as a graduate course.

of the above mentioned junior courses in his junior year, and in his senior year two courses of which one shall ordinarily be the third junior course and the other either Physics 403, 404, or one of the above mentioned senior courses.

FINAL SPECIAL HONORS

A candidate for Final Special Honors in Mathematics shall take two of the junior courses in his junior year, and in his senior year any two of the remaining four in the list of courses above given for which he is qualified. He shall also be required in connection with the courses which he takes to do work in addition to that required of Non-Honors students.

For regulations regarding Final Special Honors in Mathematics and Physics, see page 190.

For graduate courses in Mathematics, see under the Graduate School.

IX. DEPARTMENT OF PHYSICS

DEAN MAGIE, PROFESSOR LOOMIS, DEAN MC CLENAHAN, PROFESSORS TROWBRIDGE, ADAMS, ROBINSON, COOKE, NORTHRUP AND COMPTON; MR. STEVENS AND MR. SHERWOOD; MR. PORTER AND MR. STEWART

101, 102. General Physics. General course in physics, including lectures, recitations, and laboratory work. Freshman course, for all C.E. freshmen, and for Litt.B. and B.S. freshmen who do not take the alternative course in General Chemistry (Chemistry 103, 104). Both terms, 4 hours a week. For this course a fee

of $5 is charged and a deposit on apparatus of $5 is required. Professor McClenahan, Professor Compton, Mr. Stevens, Mr. Sherwood, Mr. Porter, and Mr. Stewart.

201, 202. General Physics. General course in physics, including lectures, recitations, and laboratory work. Sophomore course, for A.B. sophomores who do not take the alternative course in General Chemistry (Chemistry 201, 202) and for Litt.B. and B.S. sophomores who take General Physics. Both terms, 4 hours a week. For this course a fee of $5 is charged, and a deposit on apparatus of $5 is required. Professor McClenahan, Professor Compton, Mr. Stevens, Mr. Sherwood, Mr. Porter, and Mr. Stewart.

203, 204. Heat, Electricity and Magnetism. Lectures based on experimental demonstrations. Frequent written recitations. Sophomore course, elective for Litt.B. and B.S. sophomores who have taken General Physics in freshman year. Both terms, 3 hours a week. Professor Loomis.

205, 206. Heat, and Electricity and Magnetism. Lectures based on experimental demonstrations. Frequent written recitations. Sophomore course, required of C.E. sophomores. Both terms, 3 hours a week. Professor Loomis.

301, 302. Experimental Physics. A course in experimental physics, with lectures and laboratory work. Miller: *Laboratory Physics.* Reference books: Stewart and Gee; Millikan. Junior course, both terms, 3 hours a week. Professor Loomis.

309, 310, c. (Mathematics 309, 310, c.) Analytical Mechanics. Mechanics. Kinematics. Laws of motion. Statics of particles and rigid bodies. Center of gravity.

Work and energy. Stability and instability. Motion of particles under constant and variable forces. Orbits. Motion of rigid bodies. Generalized coördinates and Lagrange's equations. Small oscillations. Junior course, both terms, 3 hours a week. Professor Gillespie.

401, 402. Theoretical Physics. A course in the elementary mathematical theories of light and heat. Lectures. Senior course, both terms, 3 hours a week. Prerequisite course: Mathematics 201, 202. Professors Robinson and W. F. Magie.

403, 404. Theoretical Physics. A course in the mathematical theory of electricity and magnetism. Lectures. Senior course, both terms, 3 hours a week. Prerequisite course: Mathematics 201, 202. Professor Cooke.

HONORS COURSES IN PHYSICS*

The Department of Physics offers, in conjunction with the Department of Mathematics, the following courses, which are open to candidates for Final Special Honors in Mathematics and Physics:

207, 208. Preliminary course in General Physics. Mechanics. Hydrostatics. Properties of matter. Sound. Heat. Geometrical optics. Sophomore course, both terms, 3 hours a week. Those taking this course do not take Physics 201, 202. Professor W. F. Magie.

309, 310, c. Analytical Mechanics. Mechanics. Kinematics. Laws of motion. Statics of particles and rigid bodies. Center of gravity. Work and energy. Stability and instability. Motion of particles under constant and variable forces. Orbits. Motion of rigid

* For honors course in Celestial Mechanics, see page 211.

bodies. Generalized coördinates and Langrange's equations. Small oscillations. Junior course, both terms, 3 hours a week. Professor Gillespie.

311, 312, D. Honors Course in General Physics.

a. Electricity and Magnetism. The electric current. Resistance. Electromotive force. Electrolysis batteries. The principles of electrical measurements. The electric field. Electrostatic instruments. The phenomena of discharge. Magnetism.

b. Physical Optics. Elementary discussion of the undulatory theory. Interference, Young's and Fresnel's experiments. Diffraction. Applications to the theory of optical instruments. Double refraction and polarization. Simple cases of effect of crystal plates. Rotary polarization. Dispersion and absorption. Spectrum analysis. Junior course, both terms, 3 hours a week. Professor Trowbridge.

313, 314, E. Experimental Physics. Experiments in mechanics, properties of matter, sound, heat, and light. Junior course, both terms, 3 hours a week. Professor Robinson.

*411, 412, c. Theory of Electricity and Magnetism. Theory of the potential and of lines and tubes of force. The principles of electrostatics. The electrostatic field. System of charged conductors. Dielectrics. Special problems of electrostatics. Currents of electricity in linear conductors. The flow of electricity in solid conductors and in dielectrics. The principles of magnetism. Induced magnetism. Terrestrial magnetism. The magnetic field produced by electric currents. Induction in linear circuits. The general equations of the electromagnetic field. Electromagnetic waves and the electromagnetic theory of light. The motion of elec-

* Also listed as a graduate course.

trons. Senior course, both terms, 3 hours a week. Professor Adams.

*413, 414, d. Theoretical Physics.

a. Thermodynamics. The classical theories of Clausius and Lord Kelvin. Gibbs' theory of thermodynamic equilibrium. Applications to homogeneous bodies, to the ideal gas, and to solutions.

b. The Electron Theory. Atomic theory of electricity. Properties of moving charges. Electromagnetic mass. Zeaman effect. Conduction of electricity through gases. Determination of the ratio of the charge on an electron to its mass. Determination of the charge. Radioactivity. Roentgen Radiation. Electron theory of electrical and thermal conduction. Theories of atomic structure. Senior course, both terms, 3 hours a week. Professors W. F. Magie and Cooke.

*415, 416, e. Experimental Physics. Experiments in electricity and magnetism. Special problems involving exercise in the experimental methods used in research. Senior course, both terms, 3 hours a week. Professors Cooke and Compton.

FINAL SPECIAL HONORS IN MATHEMATICS AND PHYSICS

Candidates for honors enter the Honors Courses at the beginning of junior year if they have fulfilled the conditions of entrance prescribed in the general regulations for Final Special Honors. A preliminary course in General Physics is offered in sophomore year to those who at the beginning of that year decide that they wish to take Honors in Mathematics and Physics, but this course it not a prerequisite to the Honors Courses.

* Also listed as a graduate course.

The Honors Courses in Mathematics and Physics are as follows:

Junior Year

A. Geometry 305, 306
B. Analysis 307, 308
C. Applied Mathematics (Mechanics) 309, 310
D. Theoretical Physics 311, 312
E. Experimental Physics 313, 314

A candidate for Honors in Mathematics and Physics selects three of these courses, of which one must be the course C, unless a different choice is permitted by the departments.

Senior Year

a. Geometry 407, 408 or Algebra 405, 406
b. Analysis 409, 410
c. Applied Mathematics (Electricity and Magnetism) 411, 412
d. Theoretical Physics 413, 414
e. Experimental Physics 415, 416
f. Celestial Mechanics 401, 402

Courses A, B, C, D, E of junior year are prerequisite to the courses a, b, c, d, e of senior year respectively. A candidate for Honors in Mathematics and Physics takes three courses selected from those of the courses a, b, c, d, e, f, of which the prerequisites have previously been taken or from those of the courses A, B, C, D, E, which have not been taken.

For graduate courses in Physics, see under the Graduate School.

X. DEPARTMENT OF CHEMISTRY

PROFESSORS MC CAY, NEHER, HULETT, FOSTER, MENZIES, SMITH, VAN NEST, AND TAYLOR; MR. FLEECE, MR. GOSS, MR. RICHARDSON, MR. CAPPS, MR. FURMAN, MR. GORDON, MR. BOVARD, MR. CLOSE, MR. BLAIR, MR. DOBIE, MR. HARDING, MR. PERROTT, MR. TEAGUE, AND MR. YOE.

101, 102. General Inorganic Chemistry. Experimental lectures on the elements and their compounds, supplemented by laboratory work. Two lectures, and one laboratory exercise of 3 hours each week. Smith: *General Chemistry for Colleges.* Required of C.E. freshmen, both terms, 3 hours a week. Professor Van Nest, assisted by Mr. Close, Mr. Blair, Mr. Perrott, and Mr. Yoe.

103, 104. General Inorganic Chemistry. Experimental lectures on the elements and their compounds, supplemented by laboratory work. Two lectures, one recitation, and one laboratory exercise of 3 hours each week. The laboratory work is in part introductory to qualitative analysis. Smith: *General Chemistry for Colleges.* Freshman course, elective for Litt.B. and B.S., alternative to Physics 101, 102. Both terms, 4 hours a week. Prerequisite to all later courses in chemistry and mineralogy and to the Departments of Chemistry, Biology, and Geology. Professor Foster (Section III) and Professor Menzies (Section IV), assisted by Mr. Fleece, Mr. Goss, Mr. Bovard, Mr. Capps, Mr. Close, Mr. Furman, Mr. Gordon, Mr. Blair, Mr. Dobie, Mr. Harding, Mr. Perrott, Mr. Teague, and Mr. Yoe.

201, 202. General Inorganic Chemistry. Experimental lectures on the elements and their compounds, supple-

mented by laboratory work. Two lectures, one recitation, and one laboratory exercise of 3 hours each week. The laboratory work is in part introductory to qualitative analysis. Smith: *General Chemistry for Colleges.* Sophomore elective, both terms, 4 hours a week. Prerequisite to all later courses in chemistry and mineralogy and to the Departments of Chemistry, Biology, and Geology. Professor Foster (Section I) and Professor Menzies (Section II), assisted by Mr. Fleece, Mr. Goss, Mr. Bovard, Mr. Capps, Mr. Close, Mr. Furman, Mr. Gordon, Mr. Blair, Mr. Dobie, Mr. Harding, Mr. Perrott, Mr. Teague, and Mr. Yoe.

301, 302. Chemistry of the Metals and Qualitative Analysis. The course involves 6 to 8 hours of laboratory work, besides classroom exercises, each week. Junior course, both terms, 3 hours a week. This course may also be taken as a sophomore elective for Litt.B. and B.S. students, who have taken Chemistry 103, 104. Prerequisite course: General Chemistry. Required in the Department of Chemistry. Professor Smith, assisted by Mr. Bovard.

303. Qualitative Analysis. Lectures, recitations, and laboratory work. Junior course, first term, 4 hours a week. Required in the Department of Biology and *not open to students of other departments.* Chemistry 103, 104 or 201, 202 is prerequisite to this course. The course may be taken also by B.S. sophomores who have had Chemistry 103, 104 and who intend entering the Department of Biology, but only on recommendation of that department. Professor Van Nest, assisted by Mr. Close.

304. Organic Chemistry. Brief general course. Lectures, recitations, and laboratory work. Moore: *Outlines of*

Organic Chemistry. Junior course, second term, 4 hours a week. Required in the Department of Biology and *not open to students in other departments.* This course may be taken by B.S. sophomores who have taken Chemistry 103, 104 and who intend to enter the Department of Biology, but only on recommendation of the Department of Biology. Mr. Richardson.

305. Organic Chemistry, Part I. Introductory course devoted mainly to the study of the properties and relationships of the simpler hydrocarbons, alcohols, and acids, and their immediate derivatives. Lectures, recitations, and laboratory work. Neher: *Lecture Outlines;* Perkin and Kipping: *Organic Chemistry.* Junior and senior course, first term, 3 hours a week. Required in the Department of Chemistry. Professor Neher, assisted by Mr. Richardson.

For Honors: Special reading, conferences, and laboratory work.

306. Organic Chemistry, Part II. Continuation of Part I, including the more important of the higher homologues of the compounds studied there; compounds of multiple and mixed function, especially the dibasic, hydroxy-, amino-, and ketonic acids; the carbohydrates, and the uric acid group. Lectures, recitations, and laboratory work. Neher: *Lecture Outlines;* Perkin and Kipping: *Organic Chemistry.* Junior and senior course, second term, 3 hours a week. Required in the Department of Chemistry. Professor Neher, assisted by Mr. Richardson.

For Honors: Special reading, conferences, and laboratory work.

307. Quantitative Analysis, Part I. The theory and practice of typical gravimetric and volumetric analyses,

chiefly the analyses of simple salts. This course involves about nine hours of laboratory work, in addition to one or more class exercises, each week. Junior and senior course, first term, 3 hours a week. Prerequisite courses: General Inorganic Chemistry and Qualitative Analysis. Prerequisite to the later courses in Quantitative Analysis. Required in the Department of Chemistry. Professor McCay, assisted by Mr. Furman.

For Honors: Reading, reports, and laboratory work.

308. Quantitative Analysis, Part II. Continuation of Part I, including salts, minerals, and alloys. This course involves about nine hours of laboratory work, in addition to one or more class exercises, each week. Junior and senior course, second term, 3 hours a week. Prerequisite courses: General Inorganic Chemistry. Qualitative Analysis, Quantitative Analysis, Part I. Prerequisite to the senior courses in Quantitative Analysis. Required in the Department of Chemistry. Professor McCay, assisted by Mr. Furman.

For Honors: Reading, reports, and laboratory work.

309. Physical Chemistry, Part I. Two lectures and one laboratory period. Senter: *Outlines of Physical Chemistry.* Findlay: *Practical Physical Chemistry.* Molecular theory and molecular weight determinations by standard methods. Junior and senior course, first term, 3 hours a week. Required in the Department of Chemistry. Professor Taylor.

For Honors: Application of the molecular weight methods to special problems and a study of exceptions to the general laws.

310. Physical Chemistry, Part II. Two lectures and one laboratory period. Senter: *Outlines of Physical Chemistry.* Findlay: *Practical Physical Chemistry.* Theories of solutions, solubilities, determination of solubilities, conductivity, &c. Junior and senior course, second term, 3 hours a week. Required in the Department of Chemistry. Professor Taylor.

For Honors: Application of solubility and conductivity to analytic problems. Reading on the theories of solutions.

*401. Quantitative Analysis, Part III. Systematic volumetric analysis: alkalimetry, acidimetry, oxidation methods, direct and indirect; reduction methods, precipitation methods. This course involves about nine hours of laboratory work, in addition to one or more class exercises, each week. Senior course, first term, 3 hours a week. Prerequisite courses: General Inorganic Chemistry, Qualitative Analysis, Quantitative Analysis, Parts I and II. Professor McCay, assisted by Mr. Furman.

For Honors: Reading, reports, and laboratory work.

*402. Quantitative Analysis, Part IV. Complicated substances, special methods, etc. This course involves about nine hours of laboratory work, in addition to one or more class exercises, each week. Senior course, second term, 3 hours a week. Prerequisite courses: General Inorganic Chemistry, Qualitative Analysis, Quantitative Analysis, Parts I, II, and III. Professor McCay, assisted by Mr. Furman.

For Honors: Reading, reports, and laboratory work.

*403. Organic Chemistry, Part III. Continuation of Parts I and II, including the simpler cyclic compounds,

* Also listed as a graduate course.

benzene and its derivatives, aromatic nitrogen compounds, phenols, quinones, dyes, etc. Lectures, recitations, and laboratory work. Perkin and Kipping: *Organic Chemistry.* Senior course, first term, 3 hours a week. Professor Neher.

For Honors: Special reading, conferences, and laboratory work, supplemented by brief reports on assigned topics.

*404. Organic Chemistry, Part IV. Continuation of the preceding. Lectures on stereochemistry and tautomerism, supplemented, at the option of the student, either by conferences and reports, or by laboratory work in organic preparations or in organic analysis. Cohen: *Organic Chemistry for Advanced Students.* Senior course, second term, 3 hours a week. Professor Neher.

For Honors: Special reading, conferences, and laboratory work, supplemented by brief reports on assigned topics.

*405. Physical Chemistry, Part III. One lecture and two laboratory periods. Nernst: *Theoretical Chemistry;* Ostwald - Luther: *Physiko - Chemische Messungen.* Equilibrium and the velocity of reactions. Senior course, first term, 3 hours a week. Professor Hulett.

For Honors: Reading on the phase rule and experimental application to practical problems.

*406. Physical Chemistry, Part IV. One lecture and two laboratory periods. Nernst: *Theoretical Chemistry;* Ostwald - Luther: *Physiko - Chemische Messungen.* Electrochemistry, Thermochemistry and Photochemistry. Senior course, second term, 3 hours a week. Professor Hulett.

For Honors: Reading on the single potential and

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* Also listed as a graduate course.

hydrogen electrode with application to analytical and special problems. Reading on colloidal chemistry.

407. Rise and Development of Chemical Theories. Lectures and written recitations. Meyer: *Modern Theories of Chemistry;* Ostwald: *Outlines of Theoretical Chemistry.* Senior elective course, first term, 3 hours a week. Prerequisite course: General Inorganic Chemistry. Professor McCay.

*409, 410. Advanced Inorganic Chemistry. Discussion of facts, methods and principles in classroom based upon experimental work in the laboratory and upon assigned reading. Crystal form and habit, isomorphism, tests of purity, salt hydrates and their equilibrium conditions, double salts and the phase rule, cooling curves, solidification of molten masses, the thermal equilibrium diagram, aluminothermy, colloids, inorganic isomerism, the cobaltammines, and other topics will receive introductory treatment. Biltz-Hall and Blanchard: *Laboratory Methods of Inorganic Chemistry,* and other reading. This course must be preceded or accompanied by course 307-308. Senior course, both terms, three hours a week. Professor Menzies and Mr. Goss.

For Honors: Special reading, conferences, and laboratory work.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of Chemistry may become candidates for Final Special Honors, in accordance with the general regulations for Final Special Honors.

Candidates for Final Special Honors in Chemistry shall take two courses in Chemistry throughout junior and senior years in conformity to the plan outlined below.

In courses which are mainly of an introductory character,

such as the first courses in qualitative and quantitative analysis, organic chemistry and physical chemistry, Honors students will be required to do additional reading, or additional laboratory work, or both. They will meet in special divisions for recitations and conferences and will be given special examinations upon the work of the courses. In the more advanced courses, the work of Honors students will be further distinguished in subject matter as well as in quality and quantity, and, when necessary or advisable, entirely separate courses will be arranged for the accommodation of Honors men.

In place of the regular term examinations at the end of senior year, comprehensive final examinations upon the Honors work of both junior and senior years will be held.

Junior Year

1. Either Qualitative Analysis throughout year, or
   Quantitative Analysis I, II, in case qualitative analysis has already been taken

and

2. Either Organic Chemistry I, II, or
   Physical Chemistry I, II

Senior Year

A. For students who have taken Qualitative Analysis in junior year.
   1. Quantitative Analysis I, II
   2. Either Physical Chemistry I, II, or
      Organic Chemistry I, II

B. For students who have taken Quantitative Analysis I, II in junior year.
   1. Either Physical Chemistry I, II, or
      Organic Chemistry I, II
      (the one not taken in junior year)
   2. An elective from the following group:
      Quantitative Analysis III, IV
      Advanced Inorganic Chemistry (409, 410)

Organic Chemistry III, IV
Physical Chemistry III, IV

For graduate courses in Chemistry, see under the Graduate School.

XI. DEPARTMENT OF GEOLOGY

PROFESSORS SCOTT, PHILLIPS, SMYTH, FARR, AND VAN INGEN; DR. SINCLAIR, MR. HOWELL, AND MR. HONESS

301. Geology. Beginners' course, covering the subject in outline and designed both for those who intend to pursue the subject further, and for those who desire merely to obtain a general knowledge of the science. Scott: *Introduction to Geology.* Junior course, first term, 3 hours a week. Prerequisite to courses 302, 401. Professor Scott.

For Honors: Laboratory work consisting of the study of the structural geology collections illustrating Scott's textbook. Attendance upon a certain number of field trips with preparation of a report on each. Use of Geikie's *Textbook of Geology,* vol. i, in preceptorial work.

302. Introduction to Structural Geology. The interpretation of geological maps and sections, with study of the common rocks and their most important structural relations, and the elements of geological surveying. Essentially a laboratory course. Field work required of all students. Junior course, second term, 3 hours a week. Prerequisite course: Geology 301. Prerequisite to Geology 403. Dr. Sinclair.

For Honors: Two extra field trips with reports thereon. Mapping of special district. Reading of special chapters in Geikie: *Structural and Field Geology.*

303. Descriptive Mineralogy. Lectures and recitations on descriptive mineralogy, with laboratory practice in determination of the common minerals by means of their physical characters. Phillips: *Mineralogy*. Junior course, first term, 3 hours a week. Prerequisite course: General Chemistry. Prerequisite to courses 403, 407, 408. Professor Phillips and Mr. Honess.

For Honors: Extra reading to be designated and the study of a special collection of minerals comprising 150 species.

304. Determinative Mineralogy. Lectures and laboratory work in blowpipe analysis and the determination of minerals by means of chemical tests. Phillips: *Mineralogy*. Junior course, second term, 3 hours a week. Professor Phillips.

306. Introduction to Palaeontology. The scope, problems, methods, and results of the study of fossil organisms, with special reference to those that have important geological relations. Junior course, second term, 3 hours a week. Lectures and conferences. Prerequisite courses: General Geology or Biology. Professor van Ingen and Mr. Howell.

For Honors: Laboratory work on special collections of fossils, plants and animals. Reading of special papers in journals.

[Note: Departmental students must take either 304 or 306; and may take the other as a free elective.]

*401, *402. Historical Geology. The geological history of the earth from its origin to recent times. The geographic, structural, and climatic changes, and the characteristic plants and animals of each period in its history. Lectures, conferences, and field work. Scott: *Introduction to Geology*. Senior course, both terms,

* Also listed as a graduate course.

3 hours a week. Prerequisite course: Geology 301. Professors Scott and van Ingen.

For Honors: Extra reading: Geikie: *Textbook of Geology,* vol. ii.; study of certain Geologic Folios; take part in four field trips during each term and prepare report on each; and study a collection of index fossils of the geological formations.

*403. Structural and Dynamic Geology. A study of the composition and structural features of the earth's crust. Lectures, laboratory and field work. Senior course, first term, 3 hours a week. Prerequisite courses: Geology 302 and Mineralogy 303. Professor Smyth.

*404. Economic Geology. The principles controlling the circulation of mineral matter in the earth's crust, and its concentration into workable deposits. Ries: *Economic Geology of the United States;* Kemp: *Ore Deposits of the United States.* Lectures and laboratory work. Prerequisite course: Geology 403. Senior course, second term, 3 hours a week. Professor Smyth.

For Honors in 403, 404, Dynamic and Economic Geology: Reading of chapters in Van Hise: *Metamorphism,* and other monographs of the U. S. Geol. Survey; Harker: *Natural History of Igneous Rocks;* Posepny and others: *Genesis of Ore-Deposits;* Clark: *Data of Geochemistry;* Elsden: *Principles of Chemical Geology;* Lindgren: *Mineral Deposits.* Study of Geologic Folios.

*405, 406. Practical Geology. A course designed to give instruction in the exact methods of securing the information upon which the body of geological science is based. It will provide practical training for (1) stu-

* Also listed as a graduate course.

dents who anticipate entering any phase of business connected with the exploitation of natural resources such as fuels, ores, and building materials, and (2) for students who expect to engage in teaching or in professional work on the staffs of museums and federal or state surveys. Topics considered: the methods of making geological surveys and explorations, of making observations and of recording field notes, of collecting and preparing specimens for study, of making geological maps and cross-sections and models, and of writing and illustrating reports and memoirs. The work of the year will culminate in the preparation by each student of an illustrated report on the geological features of a region studied in the field. Lectures, laboratory, library, and field work. The field work in this course in 1915-16 consists of two weeks continuous study of the stratigraphy, tectonics, and palaeontology of the Siluro-Devonian formations in the cement region about Rosendale, Ulster County, New York, in the month of October. The work of the rest of the year will be based upon the records and collections made on that field trip. Senior course, both terms, 3 hours a week. Prerequisites: General Geology or Palaeontology. Professor van Ingen and Mr. Howell.

For Honors, students will be required to give special attention to two instead of one of the phases of the geological investigation of the region studied. Reading of chapters in Grabau: *Principles of Stratigraphy.*

*407. Crystallographic Mineralogy. Lectures and laboratory work on crystallography and the optical properties of crystals. Phillips: *Mineralogy.* Senior course, first term, 3 hours a week. Prerequisite course: Mineralogy 303. Professor Phillips and Mr. Honess.

* Also listed as a graduate course.

For Honors: Extra reading to be designated, and additional drawing of crystal forms with cutting of crystal models.

*408. Optical Mineralogy. Lectures and laboratory work on the optical properties of the rock-forming minerals, with instruction in the general practice of petrographic methods. Phillips: *Mineralogy.* Senior course: second term, 3 hours a week. Prerequisite course: Mineralogy 407. Professor Phillips and Mr. Honess.

For Honors: Two hours additional laboratory work on goniometer and in grinding mineral and rock sections. Study chapters of Tutton: *Crystallography;* Groth-Jackson: *Optical Mineralogy,* and Iddings: *Rock Minerals.*

FINAL SPECIAL HONORS

Each candidate shall take two departmental courses of junior year and at least three of the four departmental courses of senior year. In the first term of junior year he must take 301 and 303; in the second term he must take 302 and either 304 or 306, and he may elect both, taking the third course as a free elective. In the latter event he will be held for honors work in 302 and that one of the other two courses to be indicated by him.

In senior year, 401-402 and 403-404 and a third course will be taken, and if a fourth course in the Department be taken as a free elective and so indicated by the candidate, honors work will not be required in it.

In addition to the extra work mentioned under the individual courses he may elect, each candidate will be expected to read during his two years the works mentioned below. Those marked with an asterisk are recommended for reading during junior year.

* Also listed as a graduate course.

*Lyell: *Principles of Geology,* vol. I, except chapters II, III, and IV.
*Willis: *Mechanics of Appalachian Structure,* (13th Ann. Rept. U. S. Geological Survey.
*Geikie: *Founders of Geology*
*Davis: *Geographical Essays;* chapters 3, 12-26
*Bernard: *Principles of Palaeontology,* translation in 48th Report Regents University State of New York, vol. II, p. 127-215
Palaeontological Society Conference Papers on the Aspects of Palaeontology
Iddings: *Volcanism*
Bain: *Types of Ore Deposits*
Yale University: *Problems of American Geology*
Wright, W. B.: *The Quaternary Ice Age*

GEOLOGY CLUB

The Geology Club for the discussion of investigations, and for the review of current literature, meets weekly. Active participation is required of all graduate students in Geology, and of candidates for Final Special Honors in Geology.

SUMMER COURSE IN FIELD GEOLOGY

Juniors who contemplate electing the major part of their senior studies in the Department of Geology are strongly advised to take part in the optional field work which will be offered during a portion of each summer vacation. Field parties have operated in recent years in the Champlain and Mohawk valleys in New York, in central Pennsylvania, Wyoming, Nebraska and Newfoundland.

Graduate students are advised to join a field party during the summer previous to their first year of residence.

For graduate courses in Geology, see under the Graduate School.

XII. DEPARTMENT OF BIOLOGY

PROFESSORS SCOTT, RANKIN, MC CLURE, CONKLIN, DAHLGREN, SHULL, FARR, AND HARVEY; DR. PATON, DR. MAYER; MR. SILVESTER, DR. CARY; MR. SPEIDEL, MR. FOGLER, MR. HERSH, MR. LAUGHLIN, MR. MACY, AND MR. SHAFFER

201, 202. General Biology. Lectures, laboratory work, and recitations. An introduction to the fundamental properties of living things, their functions, structures, classification, habits, life-histories, and evolution. Selected forms are studied in the laboratory as illustrating the chief principles and generalizations of biology. Sophomore elective for students in all courses, both terms, 3 hours a week. Prerequisite course, General Chemistry 103, 104, or its equivalent. Prerequisite to the subsequent courses in Biology. Professor Conklin and Dr. Cary.

303, 304. Botany. Practical work in the field and laboratory, lectures and recitations. An introduction to the general principles of plant life. Besides the structure and functions of plants, their taxonomy and their relation to their environment will be studied, use being made of the facilities offered by the grounds of the University. Junior course, both terms, 3 hours a week. Professor Rankin.

305. Comparative Osteology. Ontogeny and comparative structure of the skeletons of the different classes of vertebrates. Exercises in descriptive work. Each student must prepare a thesis on a skeleton especially assigned for his study. Junior course, first term, 3 hours a week. Prerequisite course: General Biology 201, 202. Professor Farr.

306. Invertebrate Zoology. Lectures and laboratory work on selected phyla of invertebrates. Junior course,

second term, 3 hours a week. Prerequisite course, General Biology, 201, 202. Dr. Cary.

*401. Comparative Anatomy of Vertebrates. Lecture and laboratory course. Lectures on the comparative anatomy of the organ systems of vertebrates, and dissection of the dog-fish and a mammal. Senior course, first term, 3 hours a week. Prerequisite courses: Sophomore and junior courses in Biology. Professor McClure and Mr. Silvester.

*402. Vertebrate Embryology. Lecture and laboratory course. A comparative study of the development of vertebrates. Senior course, second term, 3 hours a week. Prerequisite course: Comparative Anatomy 401. Professor McClure and Mr. Silvester.

*403. Histology. A study of protoplasm, cells, and tissues as they underlie animal and vegetable life. Required textbook: Dahlgren and Kepner: *Principles of Animal Histology*. Senior course, first term, 3 hours a week. Prerequisite course: Biology 201, 202. Professor Dahlgren.

*404. Advanced Histology, and Neurology. The comparative histology of the nervous tissues and neuroglia; an outline of the structure of several important types of nervous systems, including the vertebrate type; and work on several other special groups of tissues. Practice in microscopical technic. Thesis. Required textbook: Dahlgren and Kepner: *The Principles of Animal Histology*. Senior course, second term, 3 hours a week. Professor Dahlgren.

*406. Vertebrate Palaeontology. Lectures and laboratory work on fossil vertebrates. Senior course, second term, 3 hours a week. Prerequisite courses: Biology 201, 202, and Osteology 305. Professors Scott and Farr.

* Also listed as a graduate course.

*407, *408. General Physiology. Lectures and laboratory work. An introduction to the phenomena exhibited by living matter. The substances of which organisms are composed will be studied and their rôle in the functioning of the cell discussed. The general physiology of muscle and nerve tissue, of the digestive tract (including absorption, nutrition, secretion and excretion) and of the circulatory system (including respiration) will then be taken up, followed by an account of the coordinate activities of the nervous system, reflexes, tropisms, and the phenomena of reproduction, growth and regeneration. Senior course, both terms, 3 hours a week. Prerequisite course: Biology 201, 202. Professor Harvey, assisted by Mr. Fogler.

*409, 410. Genetics. Lectures, recitations, and laboratory work. The development, variation, modification and inheritance of morphological and physiological characteristics of plants and animals, and the application of the principles of genetics to the improvement of plants, animals, and man. Laboratory work will consist largely of actual research on simple problems calculated to give facility in the collection and analysis of data, and an insight into the principles involved in development, variation and heredity. Well written theses presenting the results of the laboratory work will be expected of each student. Senior course, both terms, 3 hours a week. Prerequiiste course: Biology 201, 202. Professor Shull and Mr. Laughlin.

FINAL SPECIAL HONORS

Juniors and seniors in the Department of Biology may become candidates for Final Special Honors, in accordance with the general regulations for Final Special Honors.

* Also listed as a graduate course.

1. Candidates for Final Special Honors in Biology must take the course in General Biology (201, 202) either in their sophomore or junior year.

2. In junior year they must take:

   Advanced General Biology. (301) (For honors candidates only); 3 hours a week, 1st term.

   Invertebrate Zoology (306); with 3 hours a week supplementary reading and laboratory work, 2nd term.

   Botany (303, 304); with 3 hours a week supplementary reading and laboratory work, both terms.

3. In senior year they must take two of the following courses:

   Comparative Anatomy (401); with 3 hours a week supplementary reading and laboratory work, 1st term. Vertebrate Embryology (402); with 3 hours a week supplementary reading and laboratory work, 2nd term.

   General Physiology (407, 408); with 3 hours a week supplementary reading and laboratory work, both terms.

   Histology (403, 404); with 3 hours a week supplementary reading and laboratory work, both terms.

   Genetics (409, 410); with 3 hours a week supplementary reading and laboratory work, both terms.

4. In place of the regular term examinations at the end of senior year, candidates for Final Special Honors in Biology shall take comprehensive examinations covering the Honors work of both junior and senior years.

5. In addition to the supplementary work in connection with each of the courses named, candidates for Final Special Honors in Biology shall read the following

works before the close of senior year and pass an oral examination on them:

Darwin: *Origin of Species*
Darwin: *Voyage of the Beagle*
Huxley: *Introduction of Zoology*
Huxley: *Man's Place in Nature*
Wallace: *Malay Archipelago*
Beddard: *Geological Distribution*
Locy: *Biology and its Makers*
Kellogg: *Darwinism Today*
Jennings: *Behavior of the Lower Organisms*
Wheeler: *Ants*
Walter: *Genetics*
Davenport: *Heredity in Relation to Eugenics*

For graduate courses in Biology, see under the Graduate School.

XIII. DEPARTMENT OF ASTRONOMY

PROFESSORS RUSSELL AND DUGAN

301. Astronomy. Elementary Astronomy. Mainly descriptive, exhibiting the leading facts regarding the solar system and an elementary explanation of the methods by which they are ascertained. Recitations on textbook, with lectures. Young: *Manual of Astronomy*. Junior course, first term, 3 hours a week. Professor Russell.

302. Astronomy. Stellar Astronomy. A review of the present state of knowledge concerning the stars. Stellar positions, proper-motions, radical velocities, and parallaxes; group and stream motions; visual and spectroscopic binaries; stellar spectra, colors, and temperatures; variable and new stars; masses and densities of the stars; characteristics of different spectral types;

distribution of the stars in space; clusters and nebulae; theories of stellar evolution. Lectures. Junior course, second term, 3 hours a week. Professor Russell.

*401, 402. *f.* Astronomy. Honors Course in Celestial Mechanics. Open to candidates for Honors in Mathematics and Physics. Elliptic motion; determination of orbits; disturbed motion; tidal evolution. Moulton: *Introduction to Celestial Mechanics.* Senior course, both terms, 3 hours a week. To be eligible to this course, a student must be familiar with the differential and integral calculus, and the elements of differential equations. Professor Russell.

403, 404. Astronomy, Practical Astronomy. The principal methods and instruments of astronomical observation; determination of latitude and time; work with the sextant, transit, equatorial, and spectroscope. Classroom exercises, with observatory work. Campbell: *Elements of Practical Astronomy.* Senior course, both terms, 3 hours a week. Prerequisite course, Astronomy 301. Professor Dugan.

FINAL SPECIAL HONORS

Candidates for Final Special Honors in Astronomy are required to take courses 301, 302, 401, 402, 403, 404.

In junior year, they shall also take one course in each term in some subject cognate to that of their department. This course will be assigned in each individual case by the Department, after conference with the student.

The additional work planned for the two years for such candidates is as follows:

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* Also listed as a graduate course.

Junior Year

Study of the heavens with the naked eye. Identification of the stars, planets and other heavenly bodies, and study of their motions, both by observation and with the aid of ephemerides. Study of astronomical photographs of the moon and stars.

Books of reference: Schurig: *Himmels-Atlas;* American Ephemeris.

Senior Year

Telescopic observation of the heavenly bodies. Study of special problems in Practical Astronomy. Readings on selected topics in current astronomical literature.

For graduate courses in Astronomy, see under the Graduate School.

XIV. DEPARTMENT OF HYGIENE AND PHYSICAL EDUCATION

PROFESSORS RAYCROFT, FAUVER, AND LUEHRING; DR. VANNEMAN, MR. SULLIVAN AND MR. FOGGITT

The aim of the work in this Department is to promote the general health and physical efficiency of the students; and to stimulate the formation of habits of rational exercise and healthy living that will be continued after graduation. All members of the freshman class are required to take regular work as indicated below.

Personal Hygiene. Lectures and recitations. A discussion of the fundamentals of health and physical efficiency; the influence of diet, exercise, bathing and sleep; the effects of personal habits; the use of alcohol and tobacco; and a study of the more common infectious diseases—their nature, causes, methods of transmission and prevention. The lectures will be illustrated

by the use of manikins, diagrams, and lantern slides. Reference books: Hough and Sedgwick, Woodhull, and Pyle. Freshman course, both terms, 1 hour a week. Professors Raycroft, Fauver, and Luehring.

Physical Examinations. Each student is given a careful physical examination which serves as a basis for advice as to special corrective exercises, if needed, and affords an opportunity for a discussion with each individual on the various practices and habits that affect his physical and mental efficiency. This examination includes a few anatomical observations; strength tests for determining muscular efficiency; and an examination of the eyes, nose, ears, throat, and the vital organs. Professors Raycroft, Fauver, and Luehring; and Mr. Foggitt.

Graded Exercises. The work consists of a large variety of games and exercises conducted under the supervision of the Department. It is graded to meet the needs and ability of those in the classes, and is conducted out-of-doors whenever possible. The student may select the squad or class with which he will work, but every freshman must pass a test in swimming, in which classes are organized for beginners. Life-saving and methods of resuscitation are taught in all classes. Required of all freshmen, both terms, 3 hours a week. Professors Fauver and Luehring; Mr. Sullivan and Mr. Foggitt.

COURSES FALLING UNDER DIVISION C, BUT WHICH ARE NOT INCLUDED IN ANY ONE OF THE PRECEDING DEPARTMENTS

Graphics 203. Elementary Mechanical Drawing. A beginners' course. Willson: *Theoretical and Practical Graphics.* Elective, open only to B.S. and Litt.B. sophomores who elect Mathematics at the same time.

First term, 3 hours a week. Prerequisite to Graphics 204. Professor Willson and Mr. McWilliams.

Graphics 204. Curve construction, structure drawing, intersections, etc. Willson: *Graphics.* Elective course, open only to B.S. and Litt.B. sophomores who have elected both Mathematics 201 and Graphics 203, and who elect Mathematics 202 during the second term. Second term, 3 hours a week. Professor Willson and Mr. McWilliams.

Graphics 302. Shadows, perspective, and valve-motion. Lectures, illustrated with lantern slides, textbook work, and practical problems on the drawing board. Willson: *Shadows and Perspective;* Halsey: *Slide Valve Gears.* Junior course, second term, 3 hours a week. Open only to such candidates for bachelor's degrees as intend to study Architecture or Engineering subsequent to graduation. Professor Willson and Mr. McWilliams.

Graphics 303. Descriptive Geometry. A lecture and textbook course on the fundamental problems of the point, line, and plane, followed by their application to developable, double-curved, and warped surfaces, and including trihedrals and spherical projections, practically applied in the solution of a large number of problems on the drawing board. Willson: *Descriptive Geometry.* Junior course, first term, 3 hours a week. Mr. McWilliams.

Graphics 401. Stereotomy. Descriptive geometry applied to the solution of such problems in stone cutting as are likely to arise in railroad or architectural construction. A lecture and drafting-room course. Senior course, first term, 2 hours a week. Open only to such candidates for bachelor's degrees as intend to study

Architecture or Engineering subsequent to graduation. Professor Willson.

Surveying 302. A general outline of methods of surveying and their uses. Raymond: *Surveying.* Junior course, second term, 3 hours a week. Professor Harris.

Heat Engines (Civil Engineering 401, 402). General relations of the factors of energy and power considered analytically and graphically; reduction of inertia and all resistances to driving point; efficiency; general theory of water motors (rotative); thermal motors:—combustion, calorific powers of fuels, theory of chimney-draft, efficiency of generator. Hirshfeld and Barnard; *Heat Power Engineering.* Senior course, both terms, 3 hours a week, with laboratory work. Prerequisite courses: Physics, Mechanics (Analytical and Graphical). Mr. Dirks.

Physical Geography 302. Morphology of the continents. Guyot: *Physical Geography; Earth and Man;* Davis: *Physical Geography;* Tarr: *Elementary Physical Geography;* Mill: *Realm of Nature.* Junior course, second term, 3 hours a week. Professor Libbey.

Honors Reading: Salisbury and Atwood: *Interpretation of Topographical Maps;* Russell: *Rivers of North America;* Russell: *Lakes of North America;* Russell: *Glaciers of North America;* Dutton: *Earthquakes;* Poulett-Scrope: *Volcanoes;* Dana: *Volcanoes;* Geikie: *Earth Sculpture.*

DEPARTMENT OF CIVIL ENGINEERING

PROFESSORS CONSTANT, WILLSON, SMITH, HARRIS, AND BEGGS;
MR. MC WILLIAMS, MR. AYMAR, MR. CONDIT,
MR. CAMPBELL AND MR. DIRKS

THE FRESHMAN YEAR

English 101, 102 c. Required course for C.E. freshmen. Three hours a week. Two hours a week will be given to the special study and general reading of selected English authors, with frequent reports on assigned reading; the third hour to rhetoric and composition with special attention to technical writing. Mr. Stone.

Physics 101, 102. General Physics. General course in physics, including lectures, recitations, and laboratory work. Reed and Guthe: *College Physics.* Both terms, 4 hours a week. For this course a fee of $5 is charged, and a deposit on apparatus of $5 is required. Professors McClenahan and Compton; Mr. Stevens, Mr. Sherwood, Mr. Porter, and Mr. Stewart.

Mathematics 103. Selected portions of Algebra: Undetermined Coefficients, Division Transformation, Partial Fractions, Elementary Theory of Equations, Permutations and Combinations; Review of Plane Trigonometry; Elements of Spherical Trigonometry. Fine: *College Algebra;* Hun and MacInnes: *Elements of Plane and Spherical Trigonometry.* First term, 4 hours a week. Professor Gillespie and Dr. Daniels.

Mathematics 108. Coördinate Geometry, treated from the Cartesian standpoint. Fine and Thompson: *Coordinate Geometry.* Second term, 4 hours a week. Professors Fine and Gillespie, Dr. Dederick, Dr. Alexander, Dr. Bennett, Dr. Daniels, Mr. Hill, Mr. Anderson, and Mr. Wester.

Chemistry 101, 102. General Inorganic Chemistry. Experimental lectures on the elements and their compounds, supplemented by laboratory work. Two lectures, and one laboratory exercise of 3 hours each week. Smith: *General Chemistry for Colleges.* Both terms, 3 hours a week. Professor Van Nest, assisted by Mr. Close, Mr. Blair, Mr. Perrott, and Mr. Yoe.

Engineering Drawing 101, 102. Lettering, line work, orthographic and isometric projections, freehand dimensional sketching from objects, assembly and working drawings from the freehand sketches of others in ascending order of complexity; tracing and blueprinting. Both terms. First term, two credits a week, second term, one credit a week, of 3 hours each. Mr. Dirks and Mr. Condit.

Geodesy 101, 102. Land Surveying. Theory of chain and compass surveys with problem work in latitudes and departures and calculation of areas. The United States system of surveying the public lands. Leveling. Theory and adjustment of the level. Elements of topography. Lectures, recitations and office work during the second half of the first term and the first half of the second term.

Field practice. Compass survey, including all interior details and topography. Office work, calculations, and finished map including contours. Level adjustments and check levels. Completed during the second half of the second term. Gillespie-Staley: *Land Surveying.* First term, one credit, second term, two credits a week. Professor Harris, Mr. Campbell, and Mr. Aymar.

Technology 101, 102. Lectures upon engineering problems

by practicing engineers. Visits to shops and engineering works. Reports will be made and form part of the theme writing in the course in English. Both terms, 1 credit a week.

Personal Hygiene. Freshman course, both terms, 1 hour a week. Professors Raycroft, Fauver, and Luehring. (See page 212).

Physical Examinations. Professors Raycroft, Fauver, and Luehring; and Mr. Foggitt. (See page 213).

Graded Exercises. Required of all freshmen, both terms, 3 hours a week. Professors Fauver and Luehring; Mr. Sullivan and Mr. Foggitt. (See page 213).

THE SOPHOMORE YEAR

Physics 205, 206. Heat, and Electricity and Magnetism. Lectures based on experimental demonstrations. Frequent written recitations. Edser: *Heat;* Hadley: *Magnetism and Electricity.* Both terms, 3 hours a week. Professor Loomis.

Mathematics 203, 204. Calculus. Both terms. First term, 5 hours a week, second term, 3 hours a week. Dr. Dederick and Dr. Daniels..

Analytical Mechanics 205, 206. Statics; equilibrium of forces, stresses in frames, centers of gravity, moments of inertia. Kinetics; of the particle and rigid body, energy and work, friction, impact. (In 1915-16 course 206 will also be given to the C.E. juniors in the first term, 3 hours a week.) Fuller and Johnston: *Applied Mechanics.* First term, 3 credits, second term, 2 credits a week. Professor MacInnes.

Engineering Drawing 201, 202. Continuation of engineering drawing 101. Both terms, 1 credit of 3 hours a week. Mr. Dirks and Mr. Condit.

Graphics 201, 202. Descriptive geometry of the point,

line, plane; intersections, development and model-making. Applications of descriptive geometry in engineering structures. Elementary kinematic problems. Both terms, 2 credits of 3 hours each a week. Professor Willson.

Geodesy 201. Structure and adjustment of engineer's field instruments. Theory of leveling, contouring, triangulation and stadia measurements. Problems in parting off land. Lectures, recitations and office work. Tracey: *Plane Surveying*. First term, 3 credits a week. Professor Harris, Mr. Campbell and Mr. Aymar.

Geodesy 202. Railroad engineering. Theory of simple curves, mathematics and field methods with problems. Lectures, recitations and office work. Searles: *Field Engineering*. During the last two-thirds of the term, surveying, field practice, adjustments of instruments, leveling, contouring, triangulation and stadia surveys. Office work, mapping the surveys. Second term, 3 credits a week. Professor Harris, Mr. Campbell and Mr. Aymar.

Geology 202. Elementary course. General outline of the subject, including dynamical, structural, and historical geology. Scott: *Introduction to Geology*. Reference book: Chamberlin and Salisbury: *Geology*. Second term, 3 hours a week. Professor Farr.

THE JUNIOR YEAR

Analytical Mechanics 303. Continuation of Analytical Mechanics 206. (In 1915-16 this course will not be given in the first term but will be required of all C.E. juniors, second term, 3 hours a week.) Fuller and Johnston: *Applied Mechanics*. First term, 3 hours a week. Professor MacInnes.

Civil Engineering 306. Hydraulics. Theory of hydraul-

ics, including the elements of the theory of water wheels. Second term, 3 hours a week. Professor Smith. (In 1915-16 this course will not be given to the juniors but will be required of all C.E. seniors in the first term, 4 hours a week, including laboratory measurements of the flow of water.) Professor Smith.

Civil Engineering 301. Mechanics of materials. Strength and elasticity of materials and applications to beams, columns and shafts. Boyd: *Strength of Materials.* First term, 4 credits consisting of 4 recitations and 1 problem exercise of 3 hours a week. Professor Beggs.

Civil Engineering 302. Reinforced concrete. Mechanics of reinforced concrete beams, slabs and columns. Hool: *Reinforced Concrete, Part I.* Second term, 3 credits consisting of 2 recitations and 1 problem exercise of 2 hours per week. Mr. Condit.

Civil Engineering 303, 304. Laboratory work. The work consists of a series of exercises in the testing of materials of construction in tension, compression, torsion and flexure, of specimens and full sized structural members of wood, steel, cement and reinforced concrete. A study of the elastic properties of the materials is made by the use of micrometers, extensometers, and other instruments of precise measurement, and so far as possible the laboratory is made to supplement the theoretical work in the class room in the mechanics of materials. First term, 2 credits a week consisting of 2 laboratory exercises of 3 hours each. Second term, 1 credit a week consisting of 1 laboratory exercise. Professor Smith and Mr. Condit.

Geodesy 301. Town, mine and hydrographic surveying. Lectures, recitations and field work, extending during the first two-thirds of the term. Raymond: *Sur-*

veying. The remainder of the term is spent upon railroad engineering. Lectures, recitations, problems and field work. Searles: *Field Engineering.* First term, 3 credits a week. Professor Harris, Mr. Campbell and Mr. Aymar.

Geodesy 302. Railroad and road engineering. Lectures, recitations and problems. Searles: *Field Engineering and Spiral.* Roads and Pavements. Morrison: *Highway Engineering.* Second term, 3 credits a week. Professor Harris, Mr. Campbell and Mr. Aymar.

Geodesy. Summer field practice. Extended field operations and office work occupying the two weeks following the close of the second term of the junior year. Professor Harris, Mr. Campbell and Mr. Aymar.

Civil Engineering 307, 308. Machine design. Mechanism and kinematics, transmission of motion, strength and design of machine parts, such as fastenings, bearings, rotating pieces, pulleys, spur gearing, bevel gears and rope driving with special application to the motion of large structures. Both terms, 2 credits a week of 3 hours each. Mr. Dirks and Mr. Condit.

Economics 305, 306. Elements of Economics. This course will comprise the fundamental theories of economics and some of their more important applications and exemplifications, such as money, banking, transportation, international trade, and monopoly problems. One lecture a week and two recitations in small groups in which special problems of importance to engineers are studied. Fetter: *Principles of Economics,* and *Source Book in Economics.* Both terms, 3 hours a week. Professors Fetter and Adriance.

Civil Engineering 306. Structural design. Elements of structural design. Design of railway plate girder,

Stresses in beams, girders and simple trusses. Complete stresses for a railway truss bridge. Conkling: *Structural Steel Drafting; A. R. E. Specifications; Steel Hand Books; Blue Prints of Shop Drawings.* Second term, 3 credits a week consisting of 2 recitations and 1 drawing room exercise of 3 hours. Professor Beggs.

THE SENIOR YEAR

The seniors are required to report on the Monday preceding the day upon which the first term begins (Sept. 20th in 1915) at 9.00 A. M. to engage in a railway survey and location in the vicinity of the University. They will be required to give their entire time to this work until Friday of the second week of the term (Oct. 1st in 1915), at which time all work must be completed. Seniors will be expected to be prepared for and to attend regular classes on the following day.

Electrical Engineering 401, 402. Applied Electricity. An outline of methods of generation, transmission and utilization of electrical energy. Principal characteristics of direct and alternating current apparatus with regard to selection, installation, testing and operation of electrical machinery. Both terms, 3 hours a week, with laboratory work. Professor MacLaren and Mr. Egerton.

Civil Engineering 401, 402. Heat Engines. General relations of the factors of energy and power considered analytically and graphically: Reduction of inertia and all resistances to driving point; efficiency; general theory of water motors (rotative); thermal motors: combustion, calorific powers of fuels, theory of chimney-draft, efficiency of generator. Hirshfeld and Barnard: *Heat Power Engineering.* Laboratory work, consisting of a series of exercises in assembling, sketching, oper-

ating and testing steam engines, boilers and pumps, and internal combustion engines. The University Power Plant is visited, and a complete plant test is made. Both terms, 3 credits a week. Mr. Dirks.

English 411, 412. Theme writing and public speaking. Technical reference reading, written and oral presentation of reports upon engineering projects, argumentation, oral discussion of current topics. Both terms, 2 credits a week. Mr. Stone.

Civil Engineering 404. Water Supply. Collection, purification and distribution of public water supplies. Optional for C.E. seniors, second term, 2 hours a week. Professor Smith. (This course will not be given in 1915-1916.)

Civil Engineering 406. Sewerage. Design of sewers: methods of treatment and disposal of sewage. Second term, 3 hours a week. Professor Smith.

Civil Engineering 403. Water Power. Collection, control and use of water for power purposes; selection of water wheels; laboratory measurements of the flow of water. First term, 4 hours a week. Professor Smith. (In 1915-1916 this course will not be given in the first term, but will be required, without laboratory, of all C.E. seniors, second term, 2 hours a week.)

Civil Engineering 405. Framed Structures. Continuation of the theory of stresses in simple trusses and the complete design of a railway truss bridge. Conkling: *Structural Steel Drafting;* Kuntz: *Design of Steel Bridges.* First term, 4 credits a week, consisting of 2 recitations and 2 drawing room exercises of 3 hours each. Professor Beggs.

Civil Engineering 407. Foundations. Earth pressure, retaining walls, dams, spread and pile foundations, coffer-

dams, caissons and other methods of sinking deep foundations, piers and abutments. Jacoby and Davis: *Foundations.* Reference journal reading. Optional, first term, 2 credits a week. Professor Constant.

Civil Engineering 408. Framed Structures. Deflections. Theory of arches, cantilever and swing bridges and steel frame buildings. Power and mechanism for movable bridges. Bridge specifications, manufacture, erection and estimate of cost. Optional, second term, 2 credits a week of 3 hours each. Professor Constant.

Geodesy 401. Railway Economics. Wellington: *Railway Location; Proceedings of the A. R. E. Association,* and other reference reading. Optional, first term, 2 credits a week. Professor Harris and Mr. Campbell.

Civil Engineering 410. Reinforced Concrete. Design of reinforced concrete structures such as arches, bridges, viaducts, buttressed dams, towers and buildings. Optional, second term, 2 credits a week of 3 hours each. Professor Constant.

SCHOOL OF ELECTRICAL ENGINEERING

FACULTY

MALCOLM MACLAREN, E.E. A.M., *Professor of Electrical Engineering*
HOWARD MCCLENAHAN, E.E., M.S., LL.D., *Professor of Physics*
GEORGE AUGUSTUS HULETT, PH.D., *Professor of Physical Chemistry*
EDWIN FITCH NORTHRUP, PH.D., *Assistant Professor of Physics*
FRANK NICHOLAS EGERTON, JR., A.M., *Instructor in Electrical Engineering and Physics*

The course in Electrical Engineering is designed to furnish instruction in the theory of electricity and in its application in the arts and industries. The special course of study in electricity occupies two years of graduate work.

REQUIREMENTS FOR ADMISSION

Graduates of any accredited college will be admitted to the course in Electrical Engineering without examination, provided they have taken the requisite courses in mathematics, including calculus and elementary differential equations, general and experimental physics, and general chemistry. Applicants who are not graduates of any institution may be admitted to the course upon passing satisfactory examinations in these subjects.

A reading knowledge of scientific French and German is desirable as some of the textbooks and reference books are written in those languages.

TUITION

The fee for tuition in the School of Electrical Engineering is $175 per annum.

COURSE OF STUDY

First Year

Mathematical Theory of Electricity and Magnetism. Theory of the potential; lines and tubes of force; electrostatics; dielectrics, electric images; magnetism and magnetic induction; electromagnetism; electromagnetic induction; equations of the electromagnetic field; electromagnetic theory of light; theory of alternating currents; general equations; effects of resistance, inductance and capacity; distributed capacity; the rotating field; single and polyphase currents; high frequency currents and electrical oscillations; alternating current calculations; the symbolic method. Two exercises, about five hours per week, are devoted to this work. Professor McClenahan.

Engineering Principles and Measurement. This course is planned to give instruction in the fundamental principles in science which have a direct bearing upon engineering practice. It is conducted by lectures, readings and laboratory work. Particular attention is given to the theory of, and to practice in measuring, the electrical, magnetic and thermic quantities.

In the first term the subjects cover: the theory of units, dimensions of physical quantities, concrete standards, the principles of precise measurement, the nature of oscillating systems and the standard methods of measuring; quantity of electricity, ohmic resistance, electromotive forces, electric currents and the fundamental magnetic quantities. The modern methods used for measuring the high temperatures, so commonly employed in the industries, are considered briefly in lectures and in the laboratory.

In the second term quantities subject to a rapid time variation are more particularly considered. The instruction includes the theory of, and practice in

measuring, alternating currents, reactance, impedance, capacity, inductance and power. Lectures are given upon line transmission and the relations of polyphase currents and electromotive forces.

Much importance is attached to giving the students a clear physical understanding of the phenomena treated and to developing the ability to apply their mathematical equipment to the solution of concrete and practical problems. Each student is required to devote not less than two full days a week to this course. Professor Northrup.

The Theory and Design of Direct-Current Machinery. The student is required in this course to calculate magnetization curves for a number of different types of machines, to familiarize himself with the various types of field and armature windings, and make a special study of the theory of commutation. Theoretical determinations are made upon actual commercial machines, upon which test data are available for checking results. Various tests upon direct-current machines are also made by the students during the course, and finally, each student executes a complete design including general and detail drawings, of a direct-current generator. Professor MacLaren.

During the first year an opportunity is also given to students who may be deficient in such allied subjects as Heat Engines, Strength of Materials, etc., to take suitable courses in these subjects in the Department of Civil Engineering.

Second Year

The Theory of Alternating Currents. This course embraces the mathematical theory of alternating current circuits and of alternating current machinery, including a study of the transformer, induction machines, alter-

nating current generators, synchronous motors and polyphase systems. Emphasis is laid on the solution of a large number of problems, bearing on the theory and practice of alternating currents. The course includes also lectures on modern commercial testing practice. Two exercises a week for both terms. Mr. Egerton.

Alternating Current Machinery. This is a continuation of the first year course in design and the same procedure is followed, except that the student executes designs for alternating current machines, and studies their commercial application in various industries. Two exercises a week for one term. Professor MacLaren.

Railway Engineering. This course is divided into three parts. The first part covers a theoretical study of the principles of locomotion, followed by the calculation of schedule speeds, power consumption, equivalent heating loads upon the motors, etc., for some representative line upon which the operating data are available for comparing results. In the second part, a series of lectures is given upon the different electrical systems in use upon interurban trolley roads. In the third part, consideration is given to some of the problems of heavy electric traction. Two exercises a week for one term. Professor MacLaren.

Electrochemistry. Two lectures a week are devoted to a consideration of the fundamental principles involving the mutual transformation of electrical and chemical energy, while the student is given special topics to work up and present to the class for discussion.

Two laboratory periods are devoted to work which illustrates important principles in theoretical and applied electrochemistry. The Electrochemical Laboratory is fully equipped for conductivity measurements,

and measurements of ionic velocities, and the equipment includes various types of voltameters, normal and half electrodes, etc. The work done in this laboratory on standard cells with the potentiometer, constant temperature baths, etc., furnishes a most exact basis for all E. M. F. measurements and for the determination of high temperatures with thermocouples. A study is made of types of primary and secondary batteries, electrolytic refining of metals, and electroplating. Electric furnaces of different types are provided to illustrate some of the principal processes in electro-thermics. Professor Hulett.

An extended and specialized course will be given to those who wish to devote their attention to electrochemical engineering.

Testing. The equivalent of about two days a week during the year is set apart for testing dynamos, motors, transformers, lamps, engines and boilers. A complete plant test for an all-day run is carried out each year by the students of the School.

Collateral Lectures. Lectures are given during the second half of the year on power plant design, in which the principal electrical and mechanical features involved in the utilization of the different kinds of motive power are considered; on transmission of energy; on electric lighting, including the systems of distribution and a comparison of the different types of illuminants; and on the principles and methods of photometry. Professor MacLaren.

DEGREE

On completion of this course the student is entitled to apply for the degree of Electrical Engineer. With his application he must present a thesis on some subject connected with electrical science.

THE GRADUATE SCHOOL

The affairs of the Graduate School are administered by a committee of the University Faculty known as the Faculty Committee on the Graduate School. The Dean of the Graduate School is Chairman of this committee. All inquiries should be addressed to Professor West, Dean of the Graduate School.

Admission to the Graduate School on diploma is granted to those who possess a bachelor's degree from Princeton University, or from other institutions maintaining a similar standard in distinctively liberal studies for the Bachelor's degree. An applicant for admission whose undergraduate course is regarded as unsatisfactory or deficient may, with the permission of the Faculty Committee on the Graduate School, be admitted to graduate standing while making up his deficiencies by undergraduate work, or he may be required to enroll himself as an undergraduate. The regulation regarding admission of graduates to undergraduate standing as Students Pursuing Partial Courses is given on page 107.

All graduate students, whether graduates of Princeton or of another institution, are required to apply for admission at the office of the Dean of the Graduate School before October first of each year, and those who present themselves for the first time must submit to the Dean their diplomas and such other credentials as may be required.

Immediately after admission every graduate student, including graduate students of the previous year, shall register and report his courses at the office of the Dean of the Graduate School.

FEES

Graduates of universities other than Princeton are required to pay to the Treasurer a matriculation fee of five dollars. A diploma fee of five dollars is charged every graduate student coming up for a higher degree. Every graduate student on full time is required to pay an annual tuition fee of one hundred dollars, except holders of Jacobus or Procter Fellowships. Every graduate student on part time, except part-time assistants in Princeton University, is required to pay an annual tuition fee of forty dollars.

No charge for laboratory fees is made to graduate students, but if any department controlling a laboratory desires to charge for expenses and certifies its desire to the Treasurer, a deposit, the amount of which is to be fixed by the department concerned, will be required to cover in whole or in part the expense incurred for supplies (subject to rebate in case the actual expense is less than the amount of the deposit).

DEGREES

The following degrees are given for graduate study: Master of Arts and Doctor of Philosophy.

MASTER OF ARTS

The degree of Master of Arts may be conferred only upon those who hold a bachelor's degree in the liberal arts and sciences from this or another approved college who shall also have devoted at least one year exclusively to resident graduate study in the University under the care of the Faculty, passing examinations upon the studies pursued; or shall have taken graduate courses in the University involving at least three hours a week each term for four terms and passed satisfactory examinations upon these courses, and on such extra reading as may be assigned. Every candidate for the Master's degree in one year is

expected to take throughout the year at least three graduate courses, unless another arrangement is permitted by the Faculty Committee on the Graduate School. These courses shall be such as to form a consistent and well coördinated body of studies, and shall be subject to the approval of the Faculty Committee on the Graduate School.

DOCTOR OF PHILOSOPHY

Subject to the regulations hereinafter stated, the degree of Doctor of Philosophy may be conferred upon any bachelor of Princeton University, or of another approved institution, provided he has spent at least two years exclusively in study for the degree. It should be clearly understood that two years is the minimum period required and that in all but the rarest cases three years will be found necessary. One year must be spent in residence at Princeton.

REGULATIONS

Subject of Study. An applicant for the degree of Doctor of Philosophy chooses one of the following subjects of study:

Philosophy	English
History	Mathematics
Politics	Astronomy
Economics	Physics
Art and Archaeology	Chemistry
Classics	Biology
Romanic Languages	Geology
Germanic Languages	

The examination for the degree of Doctor of Philosophy consists of two parts, known as the First Part and the Second Part.

Before offering himself for the First Part of the examination for the Doctor's degree the applicant is expected to have

acquired a broad general knowledge of the subject which he has chosen and a comprehensive and detailed knowledge of some one main division of it. In certain cases, however, the applicant may, on the recommendation of the department in which his subject lies and with the approval of the Faculty Committee on the Graduate School, substitute for a main division of his subject a like division of a germane subject; or he may be required to take additional work outside his subject.

Applicants for the Doctor's degree are also required to take at some time during their period of graduate study a series of public lectures on the general trend of philosophical and scientific thought, to be given, with assigned collateral reading, by a member of the Department of Philosophy.

The First Part of the Examination. The First Part of the examination for the Doctor's degree is designed to test the student's mastery of his subject of study and is to be held not earlier than toward the close of the second year of graduate study. This examination may be written or oral, or both, at the discretion of the department which gives the examination.

No applicant for the degree of Doctor of Philosophy is to be enrolled as a candidate until he has satisfactorily sustained the First Part of the examination for the Doctor's degree as described above, and has shown that he is able to use French and German as instruments of research.

In case the First Part of the examination for the Doctor's degree is not sustained, the applicant may be allowed by permission of the Committee on the Graduate School to present himself for a second trial after the lapse of at least one academic term. If this second trial is unsatisfactory, no further examination will be allowed.

A student who has sustained the First Part of the examination for the Doctor's degree is entitled thereby to be recommended for the degree of Master of Arts.

The Thesis. After the applicant has sustained the First Part of the examination and has been enrolled as a candidate for the Doctor's degree he shall present to the department in which his work chiefly lies a thesis on some topic in the special field of his study.

The Second Part of the Examination. When the thesis has been accepted by the department, as giving evidence of high attainment and the power of independent research, the candidate proceeds to the Second Part of the examination for the Doctor's degree. This is a public oral examination in the field of the thesis and the more comprehensive aspects of the subject of study, and may not be divided.

Granting of the Degree. The Doctor's degree will be granted only after the First Part of the examination for the Doctor's degree has been sustained, the thesis accepted, the Second Part of the examination for the Doctor's degree sustained, and arrangements for publication of the thesis completed by the candidate and approved by the Committee on the Graduate School.

One hundred copies of the printed thesis must be deposited in the University Library.

THE GRADUATE COLLEGE BUILDINGS

The buildings of the Graduate College were completed in September 1913. This group of buildings consists of Thomson College, the gift of the late Mrs. J. R. Thomson Swann; Procter Hall, the gift of William Cooper Procter of the Class of 1883 in memory of his parents; Pyne Tower, the gift of M. Taylor Pyne of the Class of 1877; Wyman House, contributed by the Estate of Isaac C. Wyman; and the Cleveland Memorial Tower in memory of President Grover Cleveland, erected out of popular contributions collected by the Cleveland Monument Association.

The endowments of the Graduate College include the

fellowship fund of $300,000 given by William Cooper Procter of the Class of 1883 and the bequests under the will of Isaac C. Wyman of the Class of 1848.

RESIDENCE IN THE GRADUATE COLLEGE

The object of the Graduate College buildings is to provide a suitable place of residence for graduate students, where they may have the full advantage of a common life in scholarly surroundings. In order that the privileges of these buildings may be generally available, the prices of residence have been fixed at a minimum cost, so that it will be possible to live there for less than the amount which would usually have to be paid in the village of Princeton. Certain rooms will be reserved particularly for the Jacobus and Procter Fellows, and the other Fellows are expected ordinarily to reside there. Rooms at minimum prices will be reserved for students who do not hold fellowships. The capacity of the building is 112 students.

All applications for admission to residence in the buildings of the Graduate College should be addressed to the Dean of the Graduate School, Princeton University, Princeton, New Jersey. Application blanks will be forwarded on request.

At the time the application blank is filled out each year and sent to the Dean of the Graduate School, a deposit of ten dollars should accompany each application in the form of a cheque, New York draft or money order made payable to the *Treasurer of Princeton University*. This deposit will be credited against the student's bill for residence. In case the application is not granted, this fee of ten dollars will be refunded, but will not be returned in case the application is granted, except as above stated.

Application for residence may be made at any time. So far as practicable, the rooms will be assigned in the order of application and in the order of preference indicated on the

application blank. Subsequent changes of rooms will be allowed for good reasons, whenever possible. *Unless otherwise definitely arranged, the reservation of rooms is for one academic year of thirty-six weeks, including the Thanksgiving Recess and the Easter Recess, but not including the Christmas Vacation.*

In case of extended absence or withdrawal from residence in the Graduate College, requests for deductions are to be made to the Treasurer of the University. No deductions are made for temporary absence.

The prices charged for residence in the Graduate College include furnished rooms, light, heat, attendance and board, but not personal laundry. The rooms are divided into six groups, with the following present total charges to graduate students, assistants, and instructors, for furnished rooms, board, light, heat and attendance for the academic year of thirty-six weeks:

Group I	$300.00
Group II	$320.00
Group III	$340.00
Group IV	$370.00
Group V	$400.00
Group VI	$450.00 and over.

The average weekly residential cost to the student thus ranges from $8.33 in Group I to $12.50 or over in Group VI. One person occupying a double suite alone is charged two-thirds of the price for two occupants. Arrangements for members of the Faculty, other than instructors, who desire to reside in the Graduate College, are made at an advance over the graduate students' rates.

Graduate students rooming outside may be admitted to the table and other privileges of the Graduate College, except residence, at a charge of $230.00 for the academic

year. Graduate students of the University who are not at the table nor resident in the buildings are invited to avail themselves of the other privileges of the Graduate College. Coupon books for occasional meals are furnished at a moderate cost for the use of the members of the Faculty, the graduate students and their invited guests, as well as to the Trustees and alumni of the University.

FELLOWSHIPS

I. UNIVERSITY FELLOWSHIPS

These fellowships were founded by subscription and endowment and are intended to encourage advanced study and promote original research in the several departments to which they are assigned. They are distinguished from the College fellowships by being open to the graduates of any American college, while the appointments are made, not by competitive examination, but by a comparison of the records presented by the applicants as to their previous collegiate standing, capacity, and character.

The University fellowships are subject to the following regulations:

1. A Fellow must devote himself to study under the direction of the department in which the fellowship is provided. But any Fellow resident in Princeton may be called upon occasionally to give instruction in his department.

2. A Fellow is not ordinarily permitted to give private tuition.

3. The fellowships are to be held for one year, but in cases of special merit they may be continued for a longer period by recommendation of the department and sanction of the Faculty.

4. The candidates shall be graduates possessing a satisfactory Bachelor's diploma in liberal studies from an accredited American college. An application should be accompanied with evidence of the qualifications of the applicant to pursue an independent course of study and investigation in the department concerned.

5. Appointment shall be made by the Faculty upon recommendation of the professors in the department interested

and of the Faculty Committee on the Graduate School, and shall be announced at Commencement.

6. All requests for fellowship or scholarship application blanks should be addressed to the Dean of the Graduate School and all applications should be in the hands of the Dean of the Graduate School on or before March 1st, the appointees to hold their positions for a year from the following September. Applications received later than March 1st may be considered in special cases, and to fill vacancies.

CLASSES OF UNIVERSITY FELLOWSHIPS

The University Fellowships are divided into two classes, the advanced and the ordinary.

The advanced fellowships include the Jacobus Fellowship and the ten Procter Fellowships. They have an annual stipend of one thousand dollars each, exempt from charge for tuition, and are assigned only to graduate students of at least one year's standing who have given evidence of unusual ability in their graduate work and of capacity to engage successfully in research.

The ordinary fellowships regularly have a stipend of six hundred dollars on first appointment, and of seven hundred dollars on re-appointment, subject to the charge of one hundred dollars for tuition. The number of these fellowships is approximately thirty-five and varies slightly from year to year. Sixteen of them are wholly or partly endowed and the funds needed to supplement the partly endowed fellowships and to add others are derived from University appropriations.

ADVANCED FELLOWSHIPS

PORTER OGDEN JACOBUS FELLOWSHIP

Established in 1905 by the generosity of Mrs. Clara Cooley Jacobus. This fellowship will be conferred upon

that regularly enrolled student of the Graduate School who, in the judgment of the University Faculty, shall have evinced the highest scholarly excellence in his graduate work during the year. The appointee to this fellowship receives the income from an endowment of $25,000 and is expected to devote himself exclusively to study under the direction of the Faculty.

THE CHARLOTTE ELIZABETH PROCTER FELLOWSHIPS

These fellowships are established on an endowment of three hundred thousand ($300,000) dollars, given in memory of Charlotte Elizabeth Procter by her son. The terms of the fellowships are as follows:

1. The fellowships shall be known as The Charlotte Elizabeth Procter Fellowships, and the holders thereof shall be exempt from tuition fees.

2. The fellowships are open only to unmarried men who are graduates of not more than six years' standing and who hold the Bachelor's degree in distinctively liberal studies from Princeton University or from some other institution maintaining a similar standard for the Bachelor's degree.

3. Appointment is to be made by vote of the University Faculty on nomination by the Dean of the Graduate School after consultation with the full professors in the department interested.

4. The tenure of each fellowship is one academic year, subject to re-appointment for not more than two years longer, except on evidence of extraordinary ability and upon unanimous vote of the University Faculty.

5. The fellowships are not to be allocated to separate departments but are open to all the departments conducting graduate work in the liberal arts and sciences.

6. Every Fellow appointed on this Foundation shall reside in the buildings of the Graduate College, unless dis-

pensed therefrom by the Dean of the Graduate School, and shall devote himself to advanced study to the exclusion of tutoring, teaching, lecturing or any other occupation or employment.

7. In case the conduct or work of any Fellow is unsatisfactory, the tenure of his fellowship may be terminated by the University Faculty.

8. The stipend of each fellowship shall be one thousand ($1,000.00) dollars annually, and no fellowship may be divided.

9. The income of the Foundation is to be applied to maintaining as many fellowships, each yielding one thousand ($1,000.00) dollars annually, as eighty per cent of the income will warrant. All income in excess of eighty per cent shall be applied first, to maintaining the principal of the Foundation, and then to re-investment for the purpose of increasing the stipend of the fellowships in amounts of one hundred ($100.00) dollars each, as rapidly as eighty per cent of such re-investment will permit.

PROVIDED, HOWEVER, that whenever the stipend of such fellowships amounts to fifteen hundred ($1,500.00) dollars each per year, thereafter no further increase in the stipend shall be made, but additional fellowships of fifteen hundred ($1,500.00) dollars shall be founded as rapidly as said eighty per cent of such re-investment will allow. All excess of income remaining at the end of each fiscal year is to be applied to the increase of the capital fund.

ORDINARY FELLOWSHIPS

J. S. K. MATHEMATICAL FELLOWSHIP FUND

This fund was founded in 1873 by a resident of New York City, who gave $11,000 for the purpose. Through accumulations of interest it now amounts to $24,150. In accordance with the deed of gift, the income from this fund

is to be "used exclusively for University fellowships in the Department of Mathematics." One Fellow in mathematics will be appointed each year. Frequently a second Fellow may be appointed. Appointments will be made on the basis of the records presented by the applicants as to their previous collegiate standing, capacity and character. In addition, in the case of resident students, a competitive examination may be held in June on geometry, differential equations, and the theory of functions.

SOUTH EAST CLUB UNIVERSITY FELLOWSHIP IN SOCIAL SCIENCE

This fellowship, which has a fund yielding $500 per annum, was founded by alumni of the classes of '76, '77, '78, and '79—former residents of the South Entry of East College.

CLASS OF 1877 UNIVERSITY FELLOWSHIP IN BIOLOGY

This fellowship has an endowment yielding $400 per annum.

CHARLES SCRIBNER UNIVERSITY FELLOWSHIP IN ENGLISH LITERATURE

This fellowship, which has an endowment yielding $500 per annum, was founded in memory of Charles Scribner, of the Class of 1840, by his son, Charles Scribner, of the Class of 1875.

THAW FELLOWSHIP IN ASTRONOMY

This fellowship, which has an endowment of $10,000, was founded by Mrs. William Thaw.

JOHN HARDING PAGE CLASSICAL FELLOWSHIP

This fellowship was established in 1900 by Mrs. James Laughlin, Jr., as a memorial to her father, Mr. John Hard-

ing Page. It is conferred by appointment of the Faculty and has an endowment of $10,000.

FRANCIS HINTON MAULE BIOLOGICAL FELLOWSHIP

This fellowship was founded in 1901 by Mr. and Mrs. Francis I. Maule as a memorial to their son, Francis Hinton Maule, who was a student in the University during the years 1895-98. It is conferred by appointment of the Faculty and has an endowment of $10,000.

CLASS OF 1860 EXPERIMENTAL SCIENCE FELLOWSHIP

This fellowship was founded in 1870 upon the sum of $10,000 subscribed by the Class of 1860. A deficiency of income, resulting from the depreciation of the value of the securities in which the principal was invested and the lowering of the rate of interest, is paid, by the consent of the donor, from the income of the Magee Professorship of Mining and Engineering, founded by George J. Magee, Esq., of the Class of 1860. By action of the Board of Trustees, taken in 1904, this fellowship was constituted a University Fellowship, to be administered, under the regulations governing the administration of such fellowships, by the Departments of Physics and Chemistry.

HARVARD FELLOWSHIP IN CHEMISTRY

Founded in 1905 by the generosity of one of the Fellows of Harvard University, with an endowment of $10,000.

GORDON MACDONALD FELLOWSHIP

This fellowship, at present unassigned to any department, was established in 1908 by Mr. James Speyer as a memorial to his friend and partner, Gordon Macdonald. The endowment yields about $500 annual income.

ORSON DESAIX MUNN UNIVERSITY FELLOWSHIP IN ELECTRICAL ENGINEERING

This fellowship was established in 1908 as a memorial to Orson Desaix Munn by his son, Charles A. Munn, of the Class of 1881, and Mrs. Henry Norcross Munn. It is awarded to the applicant who has made the best record in undergraduate work in Princeton, or other accredited college, and who shows the highest qualifications in respect to those subjects which are directly preparatory to the course in Electrical Engineering. It is conferred by appointment of the Faculty, upon recommendation by the School of Electrical Engineering, and pays the holder the income of $10,000. All applications must be in the hands of the School of Electrical Engineering before April 15.

BOUDINOT HISTORICAL FELLOWSHIP

This fellowship, founded in part upon a bequest of Dr. Elias Boudinot, of New Jersey, was constituted a University Fellowship in 1909. The income from the endowment is $200.

BOUDINOT MODERN LANGUAGE FELLOWSHIP

This fellowship, founded in part upon a bequest of Dr. Elias Boudinot, of New Jersey, was constituted a University Fellowship in 1909. The income from the endowment is $200.

CLASS OF 1883 UNIVERSITY FELLOWSHIPS

In June, 1910, the Class of 1883 contributed the sum of $30,000 to establish two University Fellowships with an income of not less than $600 each; the two fellowships to be awarded by preference in the Departments of Politics, Physics, Chemistry, Biology or Geology.

II. COLLEGE FELLOWSHIPS

Besides the degrees and honors conferred in the regular undergraduate course, annual fellowships, competitive scholarships, and prizes are offered as special incentives to study, in the classes or departments with which they are connected.

Only matriculated students who are candidates for a degree are admitted to the competition for these fellowships, prizes, and scholarships, and no one is admitted to such competition who has failed to pass satisfactorily his last preceding examination in any of the departments.

No member of any class is allowed to compete for more than one of the fellowships or scholarships offered to that class.

Every competitor must have been a member of the University in full standing for at least two academic years previous to the fellowship examinations.

Every Fellow obtaining one of the competitive fellowships the income of which is $400 or over must devote his whole time for one year to study in the department for which the fellowship is provided, under the direction of the professors in that department. He must reside in Princeton, unless by a vote of the Faculty he be allowed to study at an approved foreign university, in which case he shall from time to time furnish written reports of his work to the professors in his department. The result of every examination and the reports of work done abroad shall be immediately returned to the Faculty. Any Fellow, resident in Princeton, shall when called upon perform such duties in the department to which he belongs as may be assigned to him by the President at the request of the professors in that department.

CHANCELLOR GREEN MENTAL SCIENCE FELLOWSHIP

This fellowship, originally founded in 1870 upon the annual payment of $600 by the late Chancellor Henry W. Green, was permanently endowed in 1878 by a gift of $10,000 by his widow. This fellowship is open to any member of the senior class who graduates. It is awarded, subject to the approval of the Faculty, by the full professors of the Department of Philosophy.

CLASS OF 1873 FELLOWSHIP IN ENGLISH LITERATURE

This fellowship was established in 1908 by the Class of 1873. It pays the holder the income of $15,000, and is open to any member of the senior class of Princeton University who graduates. It is awarded, subject to the approval of the Faculty, by the decision of the full professors of the English Department, either (1) upon a competitive examination, or (2) upon general excellence of the work done in English during junior and senior years. The purpose of the donors is to promote the study of English literature in itself and in relationship to the literatures of the world, ancient and modern.

THE E. M. BIOLOGICAL FELLOWSHIP

This fellowship conveys the use of a table in the Laboratory of the U. S. Bureau of Fisheries at Woods Hole, Mass., together with all the facilities afforded for the collection and study of animal life during the season favorable for such investigations. A small stipend which varies from year to year is paid the holder. The fellowship is conferred by appointment of the Faculty.

SAYRE FELLOWSHIP IN APPLIED CHEMISTRY

This fellowship was founded by the bequest of the late Dr. John Stanford Sayre, of the Class of 1878, and its

endowments yields an income of $600 per annum. It will be awarded to that member of the senior class in Princeton University who shall pass the best examination in general chemistry, one year of qualitative analysis, one year of quantitative analysis, and general physics. The examination will be held about June first.

SAYRE FELLOWSHIP IN APPLIED ELECTRICITY

This fellowship was founded by the bequest of the late Dr. John Stanford Sayre, of the Class of 1878, and its endowment yields an income of $600 per annum. It will be awarded to that member of the senior class in Princeton University who shall pass the best examination in general physics, general chemistry, and mathematics, including elementary differential equations. The examinations will be held in Princeton on or about June first. The holder of the fellowship will be required to devote his entire time to work under the direction of the School of Electrical Engineering.

NOTE.—Applications for the SAYRE FELLOWSHIP IN APPLIED ELECTRICITY and for the ORSON DESAIX MUNN FELLOWSHIP IN ELECTRICAL ENGINEERING should be made to the School of Electrical Engineering.

III. GRADUATE SCHOLARSHIPS

In addition to graduate scholarships yielding two hundred and fifty dollars each, less the charge of one hundred dollars for tuition, and a limited number of graduate scholarships yielding free tuition and maintained by university appropriation, there are the following endowed graduate scholarships:

JAMES W. QUEEN GRADUATE SCHOLARSHIP

This scholarship was founded in 1908 with a bequest of $5,000, by Mrs. Abby S. Queen. By action of the Faculty

it has been assigned to the Department of Physics. The incumbent of the scholarship shall be a regularly enrolled graduate student of the University, who is doing the principal part of his work in the Department of Physics. Applications for this scholarship should be made to the head of the Department of Physics.

THEODORE CUYLER GRADUATE SCHOLARSHIP

This scholarship was founded by the late C. C. Cuyler, of the Class of 1879, and was constituted as a graduate scholarship in 1909. It pays the holder $300, less the charge of one hundred dollars for tuition.

GRADUATE COURSES OF INSTRUCTION

Any graduate course announced in the catalogue will be given, if applied for by any duly qualified graduate student.

The courses which are open to *graduate students only* are as follows:

PHILOSOPHY AND PSYCHOLOGY

PHILOSOPHY

A. Critical and Historical Survey of the general trend of philosophical and scientific thought. A course of lectures, one hour a week from October to April, with assigned collateral reading. Required of all candidates for the degree of Doctor of Philosophy. The President.

501, 502. The Philosophy of Kant. *The Critique of Pure Reason* will be read and systematically discussed. Occasional lectures will also be given. Both terms, 3 hours a week. [1916-1917.] Professor Kemp Smith.

503. The Historical Method in Philosophy. A study of its origins and influence. First term, three hours a week. [1915-1916.] Professor Kemp Smith.

504. The Philosophy of Kant. The *Critique of Practical Reason,* and the *Critique of Judgment* will be read and systematically discussed. Second term, 3 hours a week. [1915-1916.] Professor Kemp Smith.

507, 508. The Philosophy of Plato, with collateral reading in the works of Aristotle. Both terms, 3 hours a week. [1917-1918 and alternate years.] Professor Bowman.

509, 510. The Speculative Movement in Germany between 1794 and 1831, with special reference to the philosophy of Hegel. Both terms, 3 hours a week. [1916-1917 and alternate years.] Professor Bowman.

519, 520. The Philosophy of Evolution. In this course

the purpose is to consider the philosophical problems involved in both the biological and psychological aspects of ontogenetic and phyletic development. Both terms, 3 hours a week. Professor Spaulding.

522. Schopenhauer and Nietzsche. Second term, 3 hours a week. Professor Fogel.

525, 526. English Empiricism. An exposition and critical consideration of the theories of Locke, Hume, J. S. Miller, Spencer and Lewes, with particular reference to their postulates, methods, and results. Both terms, 3 hours a week. Professor Whitney.

527, 528. Recent Idealistic Theories of the World. Reading and systematic discussion of T. H. Green's metaphysics as found in his *Prolegomena to Ethics,* Royce's *World and Individual* and *Conception of God,* and parts of Bradley's *Appearance and Reality.* Both terms, 3 hours a week. Professor Johnson.

529. Logic. A study of the results of the recent investigations in this field. First term, 3 hours a week. Professor Spaulding.

PSYCHOLOGY

505, 506. Theory and Methods of Experimental Psychology. Lectures on the fundamental principles of psychophysical experimentation, with demonstrations. Conferences and minor laboratory problems. Both terms, 3 hours a week. Professor Warren.

511, 512. Research in Experimental Psychology. Conferences, laboratory technique and investigations. Students with sufficient training are assigned original research problems. About 9 hours of laboratory work weekly. Both terms, 3 hours a week. Professor McComas.

523, 524. The Conception of Consciousness. A critical

review of recent theories concerning the nature, efficiency, existence, and location of consciousness. The significance of consciousness for existing psychology. A study of the several aspects of mental life in their bearing upon these questions. Both terms, 3 hours a week. Professor Fite.

531. Physiological Psychology. A course dealing primarily with the structural basis and physiological correlates of conscious processes. Lectures, demonstrations, and reports. First term, 3 hours a week. Dr. Metcalf.

532. Abnormal Psychology. Lectures and discussions. Reports on recent psychopathological literature. Clinical demonstrations in visits to the State Hospital for the Insane. Second term, 3 hours a week. Dr. Metcalf.

PSYCHOLOGICAL SEMINARY. Conducted by reading, theses, and discussions. Topic to be determined in consultation with the class. Open to graduate students in philosophy and psychology. Both terms. Professor Warren.

For undergraduate courses in Philosophy and Psychology also listed as graduate courses, see page 301.

HISTORY AND POLITICS

The graduate work offered by the Department of History and Politics consists of: (1) Starred lecture courses, (2) graduate seminaries, and (3) graduate reading courses.

(1) *Starred lecture courses:* Certain senior elective courses, marked with a star in the preceding pages, may be counted as graduate courses by students having written authority from the head of the department. In every instance, however, the student will be required to follow a special course of reading in connection with the lectures,

and to pass a written examination prepared especially for him. The purpose of these courses is to furnish instruction in subjects in which the student needs further training to fit him for the more advanced graduate work. Undergraduate courses 401 to 412 inclusive (see page 301) are to be regarded as starred lecture courses within the meaning of this definition.

(2) *Graduate seminaries.* Graduate seminaries are highly specialized courses designed to introduce students to methods of research, and to familiarize them with the use of primary sources. Their purpose is the training of professional students of History and Politics.

(3) *Graduate reading courses.* Graduate reading courses are courses planned to give the student a wide acquaintance with the literature and general scope of the various divisions of History and Politics.

The following outline will indicate the arrangement of graduate seminaries and reading courses.

SECTION A, HISTORY

Division I. Ancient and Classical History. (For the present a reading course is offered.) Professor Brünnow and Professor Abbott.

Division II. Mediaeval History. (a) Seminary, Professor Munro. (b) Reading course for 1 year, Professor Munro.

Division III. Modern History. (1) General European. (a) Seminary, Professor Paul van Dyke. (b) Reading course for 1 year, Professor Shipman. (2) American History. (a) Seminary, Professor McElroy. (b) Reading course for 1 year, Professor Myers. (3) English History. (a) Seminary, Professor Paul van Dyke. (b) Reading course for 1 year, Dr. Tyler.

SECTION B, POLITICS

Division I. Government. Seminary, Professor Ford. Reading course for 1 year, Professor Ford.

Division II. Administration. Seminary, Professor Willoughby. Reading course for 1 year, Dr. Magruder.

Division III. Constitutional Law. Seminary, Professor Corwin. Reading course for 1 year, Dr. Fritts.

Division IV. International Law and Diplomacy. For the present two reading courses are offered. First, International Arbitration; second, International Law and Diplomacy. Professor Brown.

Division V. Greek Politics. Seminary, Professor Capps. (No reading course is offered.)

Division VI. Roman Law. Seminary, Professor Westcott. (No reading course is offered.)

Division VII. Roman Politics. Seminary. (Second term only.) Professor Abbott.

Students devoting all or most of their time to graduate study in the University, and specializing in History, are expected normally to center their work about one of the divisions of the History section, taking the seminary of that division throughout their period of residence in the University.

Students devoting all or most of their time to graduate study in the University, and specializing in Politics, are expected normally to elect the seminaries of the Politics section under the advice of the professor in charge of a seminary of that section.

Students of both of the above classes are expected normally to take each year, in addition to a seminary, two reading courses, one and only one of which may lie within the section to which the student in question belongs.

Any such student may also, at the suggestion of the professor in charge of the seminary to which he belongs, be

required to take work in Economics or other branches outside the Department of History and Politics.

The following is an example of the normal course of a student specializing in American History.

I. The seminary in American History.

II. One reading course each year selected from the divisions of Section A.

III. One reading course each year selected from the divisions of Section B.

Students devoting less than one half of their time to graduate work in the University are expected normally to center their work about the starred lecture courses or the reading courses. They may however enter the seminaries, upon furnishing to the professor in charge satisfactory evidence of their preparation, and of their ability to devote the requisite time.

Seminary Courses

The subjects which will be treated in the various seminaries in History and Politics will be announced each year for the year following. Those listed below, with the exception of 529, 530, 534*a* and 534*b*, are offered for the year 1915-1916.

505, 506. Mediaeval History. The Crusades. A thorough study of the first crusade, the early years of the Kingdom of Jerusalem and of the crusading movement. Three hours a week throughout the year. Professor Munro.

507, 508. Modern European History. The Renaissance and the Reformation. Three hours a week throughout the year. Professor Robinson.

509, 510. American Colonial History. A study of the discovery of America, the founding of the American colonies, and the development of colonial institutions

up to the peace of Versailles (1783). Three hours a week throughout the year. Professor McElroy.

511, 512. English History. A study of the political, economic and social history of England during the sixteenth and seventeenth centuries. Three hours a week throughout the year. Professor Paul van Dyke.

519, 520. Government. Representative Government: Its origin, its characteristics and its institutions. The first term is devoted to the history of representative government, discussing the theories that have been offered as to its genesis and tracing the course of its development. The second term is devoted to a study of existing forms of representative government from the standpoint of practical efficiency, with particular attention to the States of our own federal union and the self-governing commonwealths of the British empire. Three hours a week throughout the year. Professor Ford.

521, 522. Principles of Political Philosophy. An examination of the concepts and definitions lying at the basis of Constitutional and International Law. Three hours a week throughout the year. Professor W. W. Willoughby.

523, 524. Constitutional Law. Constitutional Law and Theory. A study of the sources and development of the fundamental concepts of American Constitutional Theory, leading to a more particular investigation of special doctrines and rules in the field of constitutional and administrative law. Three hours a week throughout the year. Professor Corwin.

529, 530. Greek Politics. (Classics, 513, 514.) The first term will deal with Aristotle's *Athenian Constitution*. In addition to the interpretation of the text, extensive collateral reading will be assigned in the historians and

in Plutarch. Topics in Athenian constitutional history and political institutions will be assigned for report, and members of the course will be encouraged to undertake original studies in these fields. The second term will deal with Aristotle's *Politics,* and will constitute an introduction to the political and economic writings of Aristotle, and to the social and political thought of Greece. There will also be extensive readings in Plato's *Republic* and *Laws.* Three hours a week throughout the year. Professor Capps. [1916-1917.]

531, 532. Roman Law: The History and Institutes of Roman Law. Sohm: *Institutes of Roman Law,* English translation; Leage: *Roman Private Law.* Special attention will be given to the law of Obligations. Students in the Department of Classics, and others who desire to do so, will read the Institutes of Gaius and of Justinian in Latin. Three hours a week throughout the year. Professor Westcott.

534*a*. Roman Politics. (Classics 572.) The Roman provinces. An analysis of the Roman imperial policy and of the methods by which the provinces were acquired and held, followed by a study of the Roman system of government and taxation in the provinces, of social and political conditions in the cities and of municipal government under the empire. The course will be based mainly on the inscriptions, on Cicero's orations against Verres and his letters from Cilicia, and on Pliny's correspondence with Trajan. Second term, 3 hours a week. Professor Abbott. [1917-1918.]

534*b*. Roman Politics. (Classics 574.) Research Course in Roman Politics. The political history of the years 62-57, 49-48, and 44-43 B.C. will be studied from the sources; the careers of the leading politicians of those

years will be followed, and the characters and purposes of the several political parties will be examined. Second term, 3 hours a week. Professor Abbott. [1916-1917.]

539. The Age of Justinian. A general course fundamental to the study of Byzantine History, Literature and Art, for students of History, Classics and Archaeology. Lectures will be given on the general subject. The sources will be critically analyzed and discussed, and reports on special topics will be read by members of the class. First term, 3 hours a week. Dr. van den Ven.

READING COURSES

The reading courses for the year 1915-1916 are as follows:

I. HISTORY

535, 536. Ancient and Classical History. Students in Ancient Oriental History will be under the direction of Professor Brünnow. Students in Classical History will be under the direction of Professor Abbott. Three hours a week, first term, for Ancient Oriental History, and three hours a week, second term, for Classical History.

537, 538. Mediaeval History and Civilization. Students reading in Mediaeval History will be under the charge of Professor Munro. Three hours a week throughout the year 1915-1916.

539, 540. The General History of Modern Continental Europe. Students reading in the History of Modern Continental Europe will be under the charge of Professor Shipman. Three hours a week throughout the year 1915-1916.

541, 542. American History. Students reading in Amer-

ican History will be under the charge of Professor Myers. Three hours a week throughout the year 1915-1916.

543, 544. English History. Students reading in English History will be under the charge of Dr. Tyler. Three hours a week throughout the year 1915-1916.

II. POLITICS

545, 546. Government. Students reading in Government will be under the charge of Professor Ford. Three hours a week throughout the year 1915-1916.

547, 548. Administration. Students reading in Administration will be under the charge of Dr. Magruder. Three hours a week throughout the year 1915-1916.

549, 550. Constitutional Law. Students reading in Constitutional Law will be under the charge of Dr. Fritts. Three hours a week throughout the year 1915-1916.

551, 522. International Law and Diplomacy. Students reading in International Law and Diplomacy will be under the charge of Professor Brown. Two reading courses are announced for the year 1915-1916: First, International Arbitration; second, International Law and Diplomacy.

General Conferences

Each section of the Department of History and Politics holds a general meeting, consisting of Faculty, students and invited guests, about once a month. At these meetings are presented reports which have attracted special attention in the graduate seminaries, brief reviews of current literature, addresses or papers prepared by the students, the Faculty, or invited guests, or such material as is likely to prove of general interest and value.

At rarer intervals the organizations of the History Section

and that of the Politics Section hold a joint meeting for the discussion of some question of common interest. Upon such occasions the Department of Economics and Social Institutions is invited to attend.

PREPARATION FOR GOVERNMENT SERVICE

The following courses are suggested for those preparing for the diplomatic, consular, and insular services. Courses in French, German, and Spanish are also available.

303. Politics. Constitutional Government. Professor Willoughby. (Junior course.)

304. Politics. Elements of Jurisprudence. Professor Willoughby. (Junior course.)

405. Politics. Municipal Government. Professor Ford. (Senior course.)

406. Politics. Federal and State Government. Professor Ford. (Senior course.)

407. Politics. International Law. Professor Brown. (Senior course.)

412. Politics. Administrative Law. Professor Corwin. (Senior course.)

551, 552. Politics. International Law and Diplomacy. Professor Brown. (Graduate course.)

403, 404. History. American History. Professor McElroy. (Senior course.)

305, 306. Elements of Economics. Professor Fetter. (Junior course.)

409. Economics. Money and Banking. Professor Kemmerer. (Senior course.)

ECONOMICS AND SOCIAL INSTITUTIONS

501. Economic Principles. A systematic review of the theory of value and of the fundamental problems in the theory of distribution. Open to first year graduate

students. Fetter: *Economics, Vol. 1; Economic Principles.* First term, 3 hours a week. Professor Fetter. [1915-1916.]

503. Monetary and Banking History of the United States. The period covered is from 1789 to the resumption of specie payments in 1879. A seminar course based chiefly upon source materials. In addition to the general work of the course each student is required to make an intensive study of some special topic and to give a report upon it to the seminar. Open to first year graduate students. Professor Kemmerer. [1916-1917.]

507. Labor Problems and Labor Organizations. An examination of present-day labor problems, followed by an intensive study of the history, policies and influence of trade unions, especially in the United States. First term, 3 hours a week. Professor McCabe. [1915-1916.]

508. The Organization of Industry. An examination of the growth of large industry, and of trusts and combinations. Second term, 3 hours a week. Professor McCabe, with Professor Knauth. [1916-1917.]

511. Accounting. A study of the theory and practice of accounting in private, corporate, and governmental business. First term, 3 hours a week. Professor Adriance. [1916-1917.]

516. Statistics. A study of statistical method with practical work in tabulation and interpretation. Attention is given both to population statistics and to economic statistics. Three hours a week, second term. Professor Adriance. [1915-1916.]

521. Readings in German and French Economists. A study of some of the leading works for the purpose of affording practice in the scientific use of the languages

and an understanding of the doctrines involved. Three hours a week, second term. Professor Knauth. [1915-1916.]

527. Money. A study of the principles of money as exemplified in certain modern currency reforms. For this year reforms studied will be those of India, Mexico, the Philippine Islands, and Austria. Three hours a week, first term. Professor Kemmerer. [1915-1916.]

528. Banking. A study of present day banking conditions and problems in the United States. Particular attention is given to the recently inaugurated Federal Reserve System, and this is studied in the light of modern European banking experience. Three hours a week, second term. Professor Kemmerer. [1915-1916.]

532. The Theory of Distribution. An examination of the sources and beginnings of distributive theory in the light of the contemporary economic and political conditions; concluding with the most recent discussions and solutions. Second term, 3 hours a week. Professor Fetter. [1915-1916.]

534. The Terminology of Economics. Origin and growth of the leading economic concepts; concluding with an examination of the present divergent usage and constructive criticism looking toward a positive and systematic terminology. Second term, 3 hours a week. Professor Fetter. [1916-1917.]

SEMINARY IN ECONOMICS. The graduate students, candidates for degrees, will meet from time to time with the members of the Faculty to discuss theses in progress. No registration is required.

For undergraduate courses in Economics also listed as graduate courses, see page 302.

ART AND ARCHAEOLOGY

Given in 1915-1916.

515. Italian Sculpture of the fifteenth century. Ability to read Italian required. First term, 3 hours a week. Professor Marquand.

516. Italian Sculpture of the sixteenth century. Ability to read Italian required. Second term, 3 hours a week. Professor Marquand.

503, 504. Christian Architecture. A practical study of religious architecture, from the fourth century to the twelfth, including the subjects of the construction, design, and details of the Early Christian, Byzantine, and Romanesque periods, with exercises in drawing. Requires elementary knowledge of the history of Christian art and Mediaeval history, and ability to read French. Both terms, 3 hours a week. Professor Butler.

505. Renaissance or Gothic Architecture. A practical study of Renaissance or Gothic architecture in Europe, with exercises in design. Requires knowledge of the elements of architecture; of shades, shadows, and perspective; and ability to read French. First term, 3 hours a week. Professor Butler.

517. Sienese Painters of the thirteenth and fourteenth centuries, with especial regard to the extension of the Sienese manner in Italy and France. Conferences and reports. First term, 3 hours a week. Professor Mather.

518. Leonardo da Vinci. A study of his artistic origins and development. His drawings will form the basis of the course, and his theories as expressed in his writings will be fully considered. Second term, 3 hours a week. Professor Mather.

519. Christian Symbolism and Iconography. This course

will treat of the evolution of the types of Christian iconography and symbolism in the first six centuries, and, in briefer fashion, of their subsequent transformation in Byzantine, Carolingian, and Ottonian Art. First term, 3 hours a week. Professor Morey.

520. Current Archaeological Literature. This course is designed to familiarize the student with current studies in the fields of ancient, mediaeval, and renaissance archaeology. It is divided into two parts:

a. Archaeological Readings in Modern Greek. This is designed to acquaint the student with modern Greek, so that he may read the archaeological publications of Greek scholars. To this end selected articles in the *Ephemeris Archaiologike* and the *Praktika* will be translated.

b. Readings in Christian Art. Reports on selected articles in the leading periodicals dealing with Christian Art. Second term, 3 hours a week. Professors Elderkin and Morey.

507. Greek Archaeology. A general outline of Greek architecture, sculpture, painting, and the minor arts. First term, 3 hours a week. Professor Elderkin.

510. Greek Sculpture. A systematic consideration of sculpture in Greece from the pre-Hellenic art of the Minoan age to the close of the Hellenistic period. Second term, 3 hours a week. Professor Elderkin.

532. Olympia, Delphi, and Epidaurus. A course in topography and antiquities designed especially for those who plan to travel and study in Greece. Second term, 3 hours a week. Professor Elderkin.

536. Byzantine Art. Its origins and development till the end of the sixth century. Second term, 3 hours a week. Dr. van den Ven.

For the years 1916-1917, and 1917-1918 other courses will be substituted as occasion requires according to the following provisional schedule:

Given in 1916-1917

513. Theories of Art. First term, 3 hours a week. Professor Marquand.

503, 504. Christian Architecture. Both terms, 3 hours a week. Professor Butler.

505. Renaissance or Gothic Architecture. First term, 3 hours a week. Professor Butler.

525. Masaccio and the Florentine Realists. First term, 3 hours a week. Professor Mather.

526. Early Flemish Painting. Second term, 3 hours a week. Professor Mather.

528. Mediaeval Illumination. Second term, 3 hours a week. Professor Morey.

530. Byzantine Art. Second term, 3 hours a week. Professor Morey.

507. Greek Archaeology. First term, 3 hours a week. Professor Elderkin.

510. Greek Sculpture. Second term, 3 hours a week. Professor Elderkin.

514. Greek Painting. Second term, 3 hours a week. Professor Elderkin.

Given in 1917-1918

501. Italian Sculpture, from the fourth to the eleventh century. First term, 3 hours a week. Professor Marquand.

502. Italian Sculpture, from the eleventh to the fifteenth century. Second term, 3 hours a week. Professor Marquand.

503, 504. Christian Architecture. Both terms, 3 hours a week. Professor Butler.

505. Renaissance or Gothic Architecture. First term, 3 hours a week. Professor Butler.

511. Giotto and His Associates. First term, 3 hours a week. Professor Mather.

512. Giorgione, Palma Vecchio, and Titian. Second term, 3 hours a week. Professor Mather.

509. Early Christian Archaeology. First term, 3 hours a week. Professor Morey.

508. Romanesque and Gothic Sculpture. Second term, 3 hours a week. Professor Morey.

507. Greek Archaeology. First term, 3 hours a week. Professor Elderkin.

510. Greek Sculpture. Second term, 3 hours a week. Professor Elderkin.

534. Art Commentary on Greek Literature. Second term, 3 hours a week. Professor Elderkin.

For undergraduate courses in Art and Archaeology also listed as graduate courses, see page 302.

CLASSICS

GREEK

Greek Composition. A certain degree of facility in writing Greek is expected of candidates for the Doctor's degree, and those who have not already attained it are advised to make the necessary arrangements for the purpose with Professor Hutson. [1915-1916.]

501. Comparative Greek and Latin Grammar. A brief introduction to the study of phonetics and comparative philology; comparison of the sounds and inflections of the two languages. An elementary knowledge of Sanskrit is desirable, but not necessary. First term, 3 hours a week. (An acquaintance with comparative grammar is expected of candidates for the Doctor's degree, and this course is recommended to those who

have not already acquired a familiarity with the subject.) Professor Robbins. [1915-1916.]

505. Attic Orators. A study of the beginnings and development of Attic oratory, excluding Demosthenes. Assigned readings in Antiphon, Andocides, Lysias, Isaeus, Isocrates, Aeschines. Collateral reading and reports. First term, 3 hours a week. Professor Hutson. [1916-1917.]

510. Demosthenes. Private Orations. The private orations will be interpreted, with discussion of typical questions of Athenian private law. Second term, 3 hours a week. Professor Capps. [1917-1918.]

512. Pindar and Bacchylides. The extant poems of both poets will be interpreted and certain of them critically studied. The course is designed to give a practical introduction to Greek metrics. Second term, 3 hours a week. Professor Capps. [1917-1918.]

513. Aristotle. The Athenian Constitution. In addition to the interpretation of the text, collateral reading will be assigned in the historians, in Plutarch, and in the inscriptions. Topics in Athenian constitutional history and political institutions will be assigned for report, and members of the course will be encouraged to undertake original studies in these fields. First term, 3 hours a week. Professor Capps. [1916-1917.]

514. Aristotle. The Politics. An introduction to the political and economic writings of Aristotle and to the social and political thought of Greece. The whole of the work will be covered, with collateral reading in Plato's Republic and Laws. Second term, 3 hours a week. Professor Capps. [1916-1917.]

515, 516. Greek Comedy. The course of development of comedy will be followed from the beginnings down to the perfected New Comedy. The plays of Aristo-

phanes will first be rapidly reviewed, with a detailed study of their structure and technique. Especial attention will be paid to the early period and to the two great periods of transition. Reports upon articles, monographs, and individual poets will be called for and topics in dramatic technique, literary history and chronology will be assigned for investigation. Both terms, 3 hours a week. Professor Capps. [1917-1918.]

521. Homeric Antiquities. Lectures will be given on the general subject. Special topics will be studied, such as the Homeric state and institutions, houses and furniture, dress and private life, slavery, trade and crafts, war and weapons, religion and worship. Reports will be heard from the members of the class. First term, 3 hours a week. Professor Prentice. [1915-1916.]

522. Topography of Attica. This course will deal primarily with the topography of Athens and Attica. The first book of Pausanias will be read and studied critically, with special reference to the problems concerning the city wall before and after Peisistratus, the temples of the acropolis, the precincts of Dionysus, the Pnyx and Agora. Reports will be read by members of the class on various topics. Lectures will be given on the life of Pausanias, his sources and the value of his book not only with reference to Archaeology in general but also to Mythology and History. Second term, 3 hours a week. Professor Prentice. [1915-1916.]

523. Greek Papyri. An introduction to the study of the Greek papyri, their decipherment and interpretation. After a brief review of the principal literary papyri found in recent years, attention will be focused upon

representative non-literary documents of various types, especially those bearing upon legal and political institutions and upon private life and customs. First term, 3 hours a week. Professor Capps. [1915-1916.]

524. Documents from the Greek Inscriptions. Exercises in the interpretation of important typical documents preserved in inscriptions, especially the Attic inscriptions from the fourth century on. Especial attention will be given to political and religious institutions, to the Athenian calendar, and to private life. Matters of epigraphy will receive only incidental attention, the object of the course being to familiarize the student with the documents as such. Second term, 3 hours a week. Professor Capps. [1915-1916.]

525, 526. The Greek Theatre. The general field of Greek scenic antiquities will be covered by lectures and reports; but attention will be directed particularly to unsolved problems in connection with the history and structure of the theatre, technical terms, scenic appliances, the dramatic contests, and the like. The course will be given a practical bearing by the scenic analysis of a number of plays by each member of the class. Both terms, 3 hours a week. Professor Capps. [1916-1917.]

527. Introduction to the Principles and Methods of Text Criticism. Portions of a single play of Euripides will be critically interpreted by the instructor and by members of the class in turn. Occasional lectures by the instructor on the aims and methods of textual criticism and interpretation; practical exercises in the construction of an apparatus criticus. First term, 3 hours a week. Professor Capps. [1917-1918.]

530. Greek Dialects. A study of the sounds and forms of the various dialects, on the basis of the dialect in-

scriptions. Buck's *Greek Dialects* will be used as an introduction to the work. Second term, 3 hours a week. This course alternates with that on the Italic Dialects. Professor Robbins. [1915-1916.]

533. Arrian and the Sources of the History of Alexander. A critical study of Alexander's conquests. The ancient authors dealing with the subject will be read with a view to comparing their accounts with one another, and to discovering the different lines of tradition. The origin and development of the *vulgata* will be traced. First term, 3 hours a week. Professor Prentice. [1917-1918.]

534. Greek Inscriptions. Lectures will be given on the history of classical epigraphy, the alphabet, and the methods of interpretation. Practical exercises will be held in reading from casts and squeezes. Inscriptions of especial historical value, chiefly those of the fifth century, will be interpreted and discussed. Second term, 3 hours a week. Professor Prentice. [1917-1918.]

535, 536. Greek Tragedy. The beginnings of tragedy and the course of its development will be treated in lectures, with consideration of the legendary material, the external conditions in which tragedy arose, the dramatic and scenic adjustment of its parts, the language and meters, and the history of our texts. The course will involve the reading and analysis of a number of tragedies by each member of the class and a general survey of all the extant plays by the instructor. Both terms, 3 hours a week. Professor Capps. [1915-1916.]

537. Classical and Post-Classical Greek Palaeography, and Introduction to Post-Classical and Byzantine Text-criticism, with practical exercises. First term, 3 hours a week. Dr. van den Ven. [1915-1916.]

538. Post-Classical Greek and Early Byzantine Literature. Reading and interpretation of writers selected to illustrate various aspects of the early mediaeval Greek and the history and literature of the times. Second term, 3 hours a week. Dr. van den Ven. [1915-1916.]

539. The Age of Justinian. A general course fundamental to the study of Byzantine History, Literature and Art, for students of History, Classics and Archaeology. Lectures will be given on the general subject. The sources will be critically analyzed and discussed, and reports on special topics will be read by members of the class. First term, 3 hours a week. Dr. van den Ven. [1915-1916.]

LATIN

Latin Composition. A certain degree of facility in writing Latin is expected of candidates for the Doctor's degree, and those who have not already attained it are advised to make the necessary arrangements for the purpose with Professor Basore. [1916-1917.]

501. Comparative Greek and Latin Grammar. See page 265.

544. The Works of Caesar and his continuators: a course planned primarily for those who intend to teach in secondary schools. Second term, 3 hours a week. Professor Westcott. [1915-1916.]

549, 550. Virgil. The works of Virgil and the *Appendix Vergiliana* will be studied chiefly in their literary aspects. Attention will be paid to the poet's motives, sources, technique, and his influence on subsequent literature. Lectures and interpretations; reports on topics of Virgilian criticism. Both terms, 3 hours a week. Professor Stuart. [1916-1917.]

552. Livy. Study of the credibility, sources, methods, and purpose of the History, and the development of the

author's style. The results of study will be embodied in weekly reports. Second term, 3 hours a week. Professor Westcott. [1916-1917.]

548. Plautus. The course will deal, on the literary side, with dramatic form, character-drawing, diction, and style; on the linguistic side, with vocabulary, metrical treatment, and ante-classical forms and constructions. Second term, 3 hours a week. Professor Abbott. [1915-1916.]

556. Alexandrian Influence in Roman Poetry. This course will include a general survey of Alexandrian forms and tendencies in poetry and of their adaptation by the Roman poets of the Late Republic and the Early Empire. The works of Catullus and of the Elegiac Poets will be the objects of especial study. Second term, 3 hours a week. Professor Stuart. [1917-1918.]

557. Early Latin. Allen's *Remnants,* Merry's *Fragments of Roman Poetry,* and Bücheler's *Carmina Epigraphica.* The object of the course is especially to give some clear and ordered knowledge of the beginnings of Roman literature. The treatment will be mainly philological and literary. First term, 3 hours a week. Professor Abbott. [1916-1917.]

558. Italic Dialects. Buck's *Grammar of Oscan and Umbrian* will be used. The aim of the course will be the historical and comparative study of these dialects in their relation to Latin. Second term, 3 hours a week. Professor Robbins. [1916-1917.]

554. Roman Biography. The origin and the development of ancient biographical writing will be studied with especial reference to the literary and rhetorical aspects. The literary and the imperial biographies of Suetonius, the *Agricola* of Tacitus, and certain *Vitae*

found in the Scriptores Historiae Augustae will be subjected to analysis and criticism. Second term, 3 hours a week. Professor Stuart. [1915-1916.]

560. Ancient Literary Criticism. Lectures on the history of critical thought in antiquity. Reading and discussion of Aristotle's *Poetics,* Horace's *Art of Poetry,* Aristotle's *Rhetoric,* Book III; Demetrius *On Style,* Dionysius *On Literary Composition,* Longinus *On the Sublime;* Quintilian, Book X. Second term, 3 hours a week. Professor Harmon. [1916-1917.]

562. Ancient Rhetoric. Lectures on the development of rhetorical theory. Interpretation and illustration of Quintilian's *Institutio Oratoria.* Study of rhetorical practice, as exemplified in the Attic orators and in Cicero, and of the influence of rhetoric on literature. Second term, 3 hours a week. Professor Harmon. [1915-1916.]

563, 564. The Latin Romance. Attention will be directed in the main upon Petronius and Apuleius. The purpose of the course will be to study the origin, the history, and the characteristics of the Latin Romance. Papers will be presented from time to time by the members of the class. Both terms, 3 hours a week. Professor Abbott. [1916-1917.]

567. Latin Inscriptions. A large number of inscriptions will be read and interpreted from the printed text and from squeezes; special historical topics will be taken up for investigation, and a thorough working knowledge of the contents of the *Corpus Inscriptionum Latinarum* will be acquired. First term, 3 hours a week. Professor Abbott. [1915-1916.]

568. Palaeography. General and applied. Introduction to the psychology, methodology, and history of ancient writings; the material and form of books, the evolu-

tion of alphabetic writing, the science and method of textual and higher criticism. Application in the field of Latin codices, with practice in decipherment, dating, and the method of research; including search for the manuscripts, exercise in the description and collation of manuscripts and the formation of genealogical tables, the discrimination of documents and voluntary variations. Second term, 3 hours a week. Dr. Richardson. [1915-1916.]

569. Historians of the Roman Empire. A study will be made of the sources used by the various historians in compiling their works, of their methods in dealing with these sources, of the literary and political influences under which they wrote, and of the tendencies exhibited in their works. Papers on these subjects will be prepared by members of the class and submitted for discussion. First term, 3 hours a week. Professor David Magie, Jr. [1916-1917.]

573. History of the Early Roman Empire. The sources for the history of the Early Roman Empire will be critically examined and discussed, and the historical material thus obtained will be combined into a history of the period presented in reports by members of the class. First term, 3 hours a week. Professor David Magie, Jr. [1915-1916.]

572. The Roman Provinces. An analysis of the Roman imperial policy and of the methods by which the provinces were acquired and held, followed by a study of the Roman system of government and taxation in the provinces, of social and political conditions in the cities, and of municipal government under the empire. The course will be based mainly on the inscriptions, on Cicero's orations against Verres and his letters from Cilicia, and on Pliny's correspondence with Trajan.

Second term, 3 hours a week. Professor Abbott. [1917-1918.]

574. Research Course in Roman Politics. The political history of the years 62-57, 49-48, and 44-43 B.C. will be studied from the sources; the careers of the leading politicians of those years will be followed, and the character and purpose of the several political parties will be examined. Second term, 3 hours a week. Professor Abbott. [1916-1917.]

576. The Private Law Orations of Cicero. A study of the legal institutions of the time of Cicero. Second term, 3 hours a week, Professor Westcott. [1916-1917.]

578. Sources of Early Roman Law. Bruns: *Fontes Iuris Romani Antiqui,* and Lindsay: *Latin Inscriptions* will be used. This course alternates yearly with the preceding. Second term, 3 hours a week. Professor Westcott. [1915-1916.]

579, 580. Colloquial Latin. The object of the course will be to investigate some of the characteristics of colloquial Latin in the matter of lexicography, pronunciation, syntax and style, and to determine to some extent the relation of colloquial to literary Latin, as well as its connection with archaic Latin on the one hand and with the Romance languages on the other. Both terms, 3 hours a week. Professor Abbott. [1915-1916.]

581. General Course in Classical Philology. Such topics will be briefly treated in lectures and in reports by students as the history of classical philology, the relation of the several fields to one another, the transmission and reconstruction of classical texts, the formation and use of a critical apparatus, the making of a lexicon, and the method to be used in testing the historical sources for a given period. First term, 3 hours a week. Professor Abbott. [1917-1918.]

587, 588. Augustine and Patristic Latin. The *De Civitate Dei* will be read. Special attention will be given to its literary sources, argument, historical and philosophical bearings, and its relation to the other writings of Augustine. If time permits, other writings of Augustine, the *Apologeticus* of Tertullian and the *Octavius* of Minucius Felix will be read. Both terms, 3 hours a week. Dean West. [1917-1918.]

589, 590. Early Mediaeval Histories. The following writings will be studied: Iordanes: *Getica;* Eugippius: *Vita Sancti Severini;* Beda: *Historia Ecclesiastica;* Einhard: *Vita Caroli Magni;* Alcuin: *Epistles.* Both terms, 3 hours a week. Dean West. [1915-1916.]

591, 592. Later Mediaeval Literature. Reading and interpretation of writers selected to illustrate various aspects of the later mediaeval Latin and the history and literature of the times. The books proposed for reading are John of Salisbury: *Policraticus;* Roger Bacon: *Opus Majus;* Adam of Hamburg: *Descriptio Insularum Aquilonis;* Arnoldus: *Chronica Slavorum;* Richard de Bury: *Philobiblon.* Both terms, 3 hours a week. Dean West. [1916-1917.]

For undergraduate courses in Classics also listed as graduate courses, see page 302.

INDO-IRANIAN

*401, 402. Elementary Sanskrit. Grammar, exercises, and reading, with comparison of sounds and forms with the Latin, Greek, and germanic. This course is intended especially for students of the classical and germanic languages. The Sanskrit is taught from the comparative standpoint, and its relationship in sounds,

*Undergraduate course also listed as a graduate course.

inflections, and syntax to the other Indo-European languages is emphasized. Geiger's *Elementarbuch der Sanskrit-Sprache.* (Kaiser, Munich), Whitney's *Sanskrit Grammar,* Lanman's *Sanskrit Reader,* Thumb's *Handbuch des Sanskrits* (Winter, Heidelberg). Both terms, 3 hours a week. Professor Robbins. [1915-1916.]

503, 504. Advanced Sanskrit. Reading of classical and Vedic Sanskrit in the first and second terms respectively. Both terms, 3 hours a week. Professor Robbins. [Not given in 1915-1916.]

Courses in Avestan, Gothic, Lithuanian, Old Bulgarian, and advanced Sanskrit, will be given, if they are called for, by either Professor Robbins or Professor Bender.

ENGLISH

502. Historical English Grammar. In this course there will be lectures and reports on (a) the development of language in general, and (b) the development of the English language in particular. The course presupposes an acquaintance with Old and Middle English, equivalent to that offered in courses 303, 405, and 406. Students who have not such an acquaintance are referred to the note at the end of this outline of courses. Second term, 3 hours a week. Professor Spaeth or Professor Griffin.

503. Old English Poetry. The purpose of this course is to give the student a general survey of Old English literature, particularly of the various forms of poetry, with illustrative reading. It is intended to serve as an introduction to the more intensive study of the masterpieces of Old English poetry. Special attention will be paid

to linguistic forms. First term, 3 hours a week. Professor Kennedy.

505. The Old English Epic: Pagan. This course will consist in either: (a) a critical reading of *Beowulf* with study of its historical backgrounds and of Germanic culture; or (b) an investigation of the heroic epic in Germanic literature, with special reference to the bearing of the main cycles on Old English literature. The Scandinavian and Old and Middle High German epics may be read in translation, but the Old English material is studied in the original. Epic stories, like that of the *Nibelungen Lied,* may be traced through various forms down to their treatment in modern times. First term, 3 hours a week. Professor Spaeth.

506. The Old English Epic: Christian. The influence of European culture, particularly that of the church, on the development of Old English literature will be the main object of investigation in this course. The blending of native and foreign elements will be illustrated by critical reading of the poems of the Junian MS. or of the Cynewulfian school, and by study of their relationship to their sources and to the heroic epic. Second term, 3 hours a week. Professor Gerould.

507, 508. Ælfred and his Times. The object of this course is to give a general survey of West-Saxon literature, Latin and native, from its inception to the Conquest, and to devote especial attention to the writings attributed to Ælfred or inspired by him. The figure of Ælfred, and its influences on his time, will receive particular consideration. Both terms, 3 hours a week. Professor Miles.

509. Middle English Romances. The rise of the romance in England will be studied as a literary movement. Its relations to the epics and folk-tales of Germanic

and Celtic origin, to the literature of France, and to mediaeval ideals of life, ecclesiastical and courtly, as well as special topics in historical and textual criticism, will be investigated by the students. First term, 3 hours a week. Professor Gerould.

510. Middle English Romances. The object of this course is to furnish illustration of the transformation of the ancient heroic epos in the Middle Ages by a comparison of a number of representative Middle English versions of the stories of Troy, Thebes, and Alexander with their classical prototypes. Second term, 3 hours a week. Professor Griffin.

511, 512. Chaucer. The aim of the course is to give the student a thorough acquaintance with Chaucer's writings and with the literature of Chaucerian scholarship. Among the topics considered are: the collation and affiliation of manuscripts and the construction of a critical text; tests for determining the genuineness of works attributed to the poet; the chronology of his writings and the methods of determining it; contemporary literature in France, Italy, and England; Chaucer as typical of the later Middle Ages. Both terms, 3 hours a week. Professor Root.

513. The Troy Romance. An intensive study will be made of the English Troy Romance, with special reference to the development of the *Troilus and Cressida* story. First term, 3 hours a week. Professor Griffin.

515, 516. The Renaissance in England with especial reference to Spenser and Bacon. A study of the poetry and genius of Spenser, especially as modified and determined by humanism and the Italian Renaissance, and by the combination of these influences with the surviving culture of the Middle Ages. The nature of Spenser's enthusiasm for Italian and classical liter-

ature, philosophy, and art, and his knowledge and use of them. Spenser as typical of the Renaissance in his times. Some attention to Bacon as manifesting certain more literal and prosaic phases of Renaissance culture than does Spenser. Both terms, 3 hours a week. [1916-1917, and alternate years following.] Professor Osgood.

517, 518. Elizabethan Drama. The exact nature of this course varies from year to year, according to the needs of the students taking it. The object is to obtain a first-hand knowledge of the chief figures and main types in the drama from 1500 to 1642. Sometimes one dramatist is taken as a centre around which the work is grouped; sometimes several dramatists are taken up in turn, one being assigned to each member of the class for special study; sometimes the development of one form of drama, as romantic tragedy or realistic comedy, is studied in the works of various dramatists. Both terms, 3 hours a week. Professor Parrott.

519. Shakespeare. The purpose of this course is to introduce the student to the criticism and interpretation of the text of Shakespeare. A single play, such as *Hamlet, Macbeth,* or *Romeo and Juliet,* varying from year to year, is made the basis of study. First term, 3 hours a week. [1916-1917 and alternate years following.] Professor Parrott.

521, 522. English Literary Prose in the Sixteenth and Seventeenth Centuries. The course begins with Malory and ends with Dryden, and is literary and historical in character rather than philological. It aims to show the successive development of various literary styles and forms, partly under the influence of models in classical, French, Italian, and Spanish literature, partly as expressing the spirit of the age and

the thought and life of England. Both terms, 3 hours a week. [1915-1916, and alternate years following.] Professor Croll.

523, 524. Milton. The chief cultural forces of Milton's time, especially those which combined in his own character and training; his achievements in prose and poetry, with reference to their origins, forms, artistic and ethical values, etc.; his significance in English political and literary history. Both terms, 3 hours a week. [1915-1916 and alternate years following.] Professor Osgood.

525, 526. The Drama in England from 1660 to 1900. This course begins with the opening of the theatres after the Puritan Revolution and ends with the work of our contemporary dramatists. It aims to show the successive development of various dramatic types and to introduce the student to the theory, technique, and historical background of modern drama. Both terms, 3 hours a week. Professor Heermance.

527. The Influence of the French Revolution on Wordsworth and Coleridge. A study of the relations between these poets, particularly in their youth, and the contemporary leaders of thought in France. First term, 3 hours a week. [1916-1917 and alternate years following.] Professor Harper.

529, 530. History of Literary Criticism. A study of the chief theories of criticism, ancient and modern, particular attention being paid to the modern developments in French, German, and English. Both terms, 3 hours a week. [1915-1916 and alternate years following.] Professor Harper.

531, 532. The English Lyric. The object of the course is to trace the chief influences, native and foreign, which have provided the English lyric with its most important

forms. The work may in any year be limited to the study of a particular period, or a particular kind of lyric, or a particular stream of influence. Both terms, 3 hours a week. [1916-1917 and alternate years following.] Professor Croll.

Aside from the courses described above, graduate students are permitted to follow the senior courses in Old English and in the literature of the eighteenth and nineteenth centuries, conducted by Professors Hunt, Spaeth, Osgood, and Noyes, provided that they fulfill certain stipulated requirements.

For undergraduate courses in English also listed as graduate courses, see page 303.

MODERN LANGUAGES

GERMANIC

501. Old High German. Grammar, reading, and lectures on the historical development of the German language. Knowledge of modern German and Middle High German required, and some knowledge of Gothic useful. First term, 3 hours a week. Professor Hoskins. [1916-1917.]

502. Historical German Grammar. Introduction, phonology, morphology. Requires a knowledge of Gothic, Old High and Middle High German. Lectures. Second term, 3 hours a week. Professor Hoskins. [1916-1917.]

503. Gothic. Grammar, reading, and lectures. Papers based on investigations of special subjects. This course will be comparative in its methods and will aim to furnish additional equipment for the study of Germanic and Indo-European grammar, phonetics, syntax,

and etymology. Knowledge of modern German required. First term, 3 hours a week. Professor Bender. [1915-1916.]

504. German Literature since 1885. An investigation of the chief elements in the poetry, novel and drama of the last generation. Lectures, reading, and the preparation and discussion of papers on individual authors and their works. Second term, 3 hours a week. Professor Priest. [1915-1916.]

505, 506. History of the Drama in Germany. The theory and technique of the drama from the earliest times to the present. Both terms, 3 hours a week. Professor Priest. [1916-1917.]

507, 508. Advanced German Composition. A practical course in the writing of German prose, accompanied by a review of German syntax. Both terms, 1 hour a week. Professor Blau.

510. Middle High German. Grammar, lectures, and reading. The course is designed both to furnish a foundation for the historical study of modern German and to serve as an introduction to the study of Germanic philology. Proficiency in modern German is required. First term, 3 hours a week. Professor Hoskins. [1915-1916.]

511, 512. Old Icelandic. Grammar, lectures, and reading. For advanced students. Both terms, 3 hours a week. Professor Priest. [1916-1917.]

513. General Phonetics as an Introduction to Indo-European Phonology. Lectures on the physiological basis of sounds, on the Indo-European vowels, consonants and diphthongs, and their classification and development through the various Indo-European languages, especially the Germanic. Practical application will be made constantly to modern English and German. First

term, 3 hours a week. Professor Bender. [1916-1917.]

515, 516. History of the Novel in Germany. This course will treat of the development of prose fiction in Germany. The early prose romances, the Volksbücher, the pastoral, heroic, and picaresque novel, the humorous, philosophical, sentimental, and romantic novel of the eighteenth and early nineteenth centuries, the origin and growth of the realistic novel, studies in recent German fiction. Both terms, 3 hours a week. Professor Thayer. [1915-1916.]

517, 518. History of Lyric and Ballad Poetry in Germany. The course will trace German lyric and ballad poetry from its earliest beginnings through Minnesang, Meistersang, and early Volkslied, Protestant religious poetry, and the Renaissance to the poetry of the great century of German literature. Here the great masters will be taken up; and the several schools and groups, especially the early and late Romanticists, the Swabians, Young Germany, and the Munich group will be studied. In conclusion the poetry of the second half of the nineteenth century will be treated. Both terms, 3 hours a week. Professor Blau. [1915-1916.]

522. German Literature from the Earliest Times to the Fourteenth Century. Lectures. Second term, 3 hours a week. Professor Hoskins. [1915-1916.]

ROMANIC

The following courses will be given in 1915-1916:

519, 520. French Historical Grammar. Two lectures will be given each week on the phonological and morphological development of the French language from the earliest period to the present. In addition to the lectures, one hour a week will be devoted to an etymo-

logical study of several of the earlier Old French texts. Students who have not already a reading knowledge of Old French should take at the same time the undergraduate course in Old French. Both terms, 3 hours a week. Professor Buffum.

524. French Dialects. The dialects of northern France, or of the *Langue d'Oil,* will be traced from the earliest monuments to the present day. Introductory lectures will be given on the general theories of the origin and growth of dialects, especially with reference to the Romance group. The geographical position, phonology, morphology, and literature of the individual dialects of northern France will then be considered, especial attention being given to the study of representative texts. A knowledge of Old French is required. Second term, 3 hours a week. Professor Buffum.

526. The French National Epic. A critical survey of the *Chansons de Geste* and analysis of a few representative texts of the royal, feudal and provincial groups. Second term, 3 hours a week. Professor Critchlow.

531, 532. The Development of Literary Criticism in France. Beginning with a consideration of the status of criticism in the Italian Renaissance, its real and supposed sources, its principles, method, and authority, the course will cover in detail French critical writing from Du Bellay to the present. Both terms, 3 hours a week. Professor Gauss.

533. French Syntax. This course will aim to give an historical and exhaustive survey of the field of French syntax, special attention being paid to the origin, development, and analysis of constructions that have become established in modern French. A knowledge of French phonology and morphology, and ability to read Old French are required. First term, 3 hours a week. Professor Mathews.

537. The Old French Romans d'Aventure. An investigation of the sources of French mediaeval fiction based upon a study of several poems of this group. First term, 3 hours a week. Professor Critchlow.

538. History of the Novel in France. This course will consist of reading, lectures, and the preparation and discussion of papers, treating of the rise and development of the novel in France up to the end of the seventeenth century. Second term, 3 hours a week. Professor Vreeland.

539, 540. The Technique of the Drama. In this course the development of the construction of the drama is studied from its origin to the present, with special attention to the French and English drama. Both terms, 3 hours a week. Professor Stuart.

542. The Epic of Antiquity. A survey of the poetry known as the matter of Rome, together with a study of the transition period between the national and court epic groups. Second term, 3 hours a week. Professor Critchlow.

546. Italian. Thirteenth Century Lyric. A survey of the spread of the Provençal lyric through Italy and the subsequent rise of the Sicilian and Dolce Stil Nuovo schools of poetry. Second term, 3 hours a week. Dr. Moseley.

The following courses, though not regularly scheduled for 1915-1916, have been offered in previous years, and may, on application, be given:

525. Provençal. The course will consist of a study of the conditions under which Provençal literature flourished, of the phonology, morphology and syntax of idiom, and of the reading of selected texts. First term, 3 hours a week. Professor Mathews.

527. Molière. After a brief introductory study of the earlier comedy, this course takes up in detail the works of Molière. One or two of his masterpieces are studied critically with reference to language, sources, and bearing on contemporary life. First term, 3 hours a week. Professor Koren.

534. Folk-Latin. This course will begin with a brief historical sketch of the Roman nations from the time of Roman colonization. The Roman and Teutonic elements in Romance civilization will be contrasted. The phonology, morphology, and syntax of Folk-Latin will then be traced from the earliest period to the rise of the Romance literature. Especial attention will be devoted to the contrast between Folk-Latin and Classic Latin and to the Folk-Latin background of the Romance languages. Second term, 3 hours a week. Professor Buffum.

535. The Breton Epic. A study of the works of Chrétien de Troyes and their relation to the origins of the Arthurian material. First term, 3 hours a week. Professor Critchlow.

543, 544. Romanticism. A study in the origins and the development of the romantic tendencies in French literature and the relationship of the romantic movement in France to the movement in Europe generally. Both terms, 3 hours a week. Professor Gauss.

The senior courses in Old French and in Middle High German may, by special permission, be taken as graduate courses.

MATHEMATICS

The following graduate courses are offered for the year 1915-1916.

527, 528. Differential Geometry. An advanced course in special topics. Prerequisite: courses 525, 526. Lectures and conferences. Both terms, 3 hours a week. Professor Eisenhart.

533, 534. Theory of Functions of a Complex Variable. Both terms, 3 hours a week. Professor Fine.

545, 546. Theory of Sets of Points. Both terms, 3 hours a week. Professor Veblen.

549. Birational Transformations. First term, 3 hours a week. Dr. Alexander.

550. Elliptic Functions. Second term, 3 hours a week. Dr. Bennett.

531, 532. Analytical Mechanics, or Hydrodynamics and Elasticity. (Physics 505, 506.) Professor Adams.

SEMINARY. Both terms. Lectures on outstanding problems in some particular field of mathematics together with reports by students on special topics belonging to this field.

The following courses have been given recently. It is the intention of the Department to repeat them periodically.

501. Theory of Substitutions. Elementary theory of substitutions. Groups of substitutions and rotations. Application of the theory of groups to the solution of algebraic equations. First term. Professor Gillespie.

502. Theory of Invariants. The theory of invariants and covariants of binary quantics, developed in the symbolic notation of Clebsch. Second term. Professor Gillespie.

504. Linear Groups and Invariants. Second term. Professor Veblen.

505. Theory of Elimination. First term. Professor Fine.

506. Galois Theory of Algebraic Equations. Second term.

508. Theory of Matrices. Second term. Professor Wedderburn.

509, 510. Theory of Functions of Real Variables. A critical study of differential and integral calculus, with applications to the elementary functions and current problems of analysis. Both terms. Professor Veblen.

511. Theory of Algebraic Numbers. First term. Professor Fine.

513. Linear Differential Equations. Existence theorems. Real variables: oscillation properties of second order equations, boundary value and expansion problems, related integral equations. Complex variables: the hypergeometric equation. First term.

514. The Theory of the Newtonian Potential Function. Second term.

515. Differential Equations of Mathematical Physics. First term, 3 hours a week.

518. Calculus of Variations. Historical examples. General theory. Isoperimetric problems and problems in space. Double integrals. Second term.

519. Partial Differential Equations. Existence theorems, and soluble forms with numerous exercises. First term. Professor Eisenhart.

521, 522. Projective Geometry. Advanced course. Both terms. Professor Veblen.

524. Analytic Projective Geometry. Invariants and covariants of binary forms. Clebsch's symbolic notation. Theory of higher plane curves. Second term.

525, 526. Differential Geometry. An introductory course. Both terms. Professor Eisenhart.

529, 530. Infinitesimal Geometry. Historical readings from some of the memoirs of Monge, Dupin, Gauss, Weingarten, Darboux and Bianchi. Both terms. Professor Thompson.

536. Vector Analysis. An introductory course. Second term. Professor Eisenhart.

537, 538. Differential Equations. Both terms. Professor Boutroux.

539. Application of Analysis to the Theory of Numbers, with special reference to the Riemann Zeta function, and the distribution of prime numbers. First term.

541, 542. Integral Equations. Both terms.

543, 544. Algebraic Functions. Both terms, 3 hours a week. Professor Fine.

547, 548. Conformal Representation and the Uniformization of Analytic Functions. Both terms, 3 hours a week.

For undergraduate courses in Mathematics also listed as graduate courses, see page 303.

ASTRONOMY

501, 502. Theoretical Astronomy. Reading course. Calculation of Orbits. Watson; Oppolzer; Bauschinger. Both term, 3 hours a week. Professor Russell.

503, 504. Practical Astronomy. Theory of instruments. Study of the determination of time, latitude, and azimuth; work with the equatorial on double stars, variable stars, and the sun. Both terms, 3 hours a week. Professor Dugan.

505. Theory and Method of Reduction of Photographic Star Plates. Determination of star-places from photographic plates; stellar parallax, and proper motion. First term, 3 hours a week. Professor Russell.

506. Spectroscopy. The theory and use of the spectroscope as an implement of astronomical investigation, with practical work in the observatory. Second term, 3 hours a week. Professor Russell.

507, 508. Celestial Mechanics. An introduction to the general problems of the motions of the heavenly bodies. Lectures and collateral readings in the treatise of Tisserand. Both terms, 3 hours a week. Professor Russell.

509, 510. Photometry. Laws of radiation and illumination. Atmospheric extinction. The various kinds of photometers. Results of photometric investigation of the solar system. Work on variable stars with polarizing photometer attached to 23-inch equatorial. Discussion of observations and interpretation of light-curves. Orbits of eclipsing variables. Photographic photometry. Müller: *Die Photometrie der Gestirne;* André: *Traité d'astronomie stellaire.* Both terms, 3 hours a week. Professor Dugan.

For undergraduate courses in Astronomy also listed as graduate courses, see page 305.

PHYSICS

501, 502. Mathematical Theory of Electricity and Magnetism. Theory of the potential; lines and tubes of force; electrostatics; dielectrics; electric images; magnetism and magnetic induction; electromagnetism; electromagnetic induction; equations of the electromagnetic field; electromagnetic theory of light; theory of alternating currents; general equations; effects of resistance, inductance and capacity; distributed capacity; the rotating field; single and polyphase currents; high frequency currents and electrical oscillations; alternating current calculations; the symbolic method. Both terms, 2 exercises, about 5 hours a week. Professor McClenahan.

505, 506*a*. (Mathematics 531, 532.) Analytical Mechan-

ics, including the theory of small oscillations and the theory of the potential. Both terms, 3 hours a week. Professor Adams.

505. 506 *b*. (Mathematics 531, 532.) Hydrodynamics and Elasticity. Both terms, 3 hours a week. Professor Adams.

[The courses 505, 506 *a*, and 505, 506 *b* are not given in the same year. The one to be given will be determined by the professor in charge.]

508. The Kinetic Theory of Gases. Introductory sketch of the theory of probabilities. Elementary study of pressure in gases. Maxwell's law of distribution and its developments. Equipartition of energy. Molecular magnitudes. The Brownian movements. Boltzmann's H-theorem. Specific heats of solids. Second term, 3 hours a week. Professor W. F. Magie.

511. Theory of Elastic Solids. The physical properties of actual solids. The ellipsoids of strain and stress and their respective properties. Potential energy of strained solids. Problem of Saint Vénant. Special problems of flexure and tension. Distentional and compressional waves in solids of two dimensions. Double refraction and the Fresnel wave front. First term, 3 hours a week. Professor Loomis.

512. Theory and Practice of Exact Measurements. This course is intended for students who have already had training in general laboratory practice. It is designed to instruct them in more refined methods of observation, and especially to train them in the use of those instruments which are frequently employed in research. Second term, 3 hours a week. Professor Loomis.

509, 510. Light. Physical Optics: Interference, Huygen's principle, diffraction, polarization. Electromagnetic Theory: Isotropic and crystalline bodies, absorption,

dispersion, natural and magnetic activity, media in motion. Radiation: Thermo-luminescence, fluorescence. Both terms, 3 hours a week. Professor Trowbridge.

514. Spectroscopy. A discussion of the experimental investigation of emission, absorption, fluorescence, and phosphorescence. Second term, 3 hours a week. Professor Robinson.

516. Atmospheric Electricity. Introduction to theory of ionized gases. Methods of observation. Atmospheric ionization, its causes and distribution. Atmospheric potential gradient. General electrical phenomena. Detailed discussion of work of various observers. Second term, 3 hours a week. Professor Cooke.

518, *a*. The Mathematical Theory of Electric Waves and Oscillations. Second term, 3 hours a week. Professor Adams.

518. *b*. Statistical Mechanics and Kinetic Theory of Gases. A discussion of the methods of statistical mechanics, with applications to the kinetic theory of gases and the theory of radiation. Second term, 3 hours a week. Professor Adams.

[The courses 518 *a* and 518 *b* are not given in the same year. The one to be given will be determined by the professor in charge.]

519, 520. Heat and Temperature. Principles of heat flow. Practical methods of measuring heat quantities and temperature through extended ranges, chiefly by electrical methods. Calorimetry and pyrometry. This is a lecture and experimental course and is intended to give students a working knowledge of modern methods employed for measuring thermal conductivities, specific heats, latent heats, and low and high temperatures. The methods of electrical and optical pyrometry are

considered. Both terms, one lecture and 4 hours supervised laboratory work a week. Professor Northrup.

The physical laboratory is open throughout the week to graduate students.

For undergraduates courses in Physics also listed as graduate courses, see page 303.

CHEMISTRY

501, 502. Advanced Quantitative Analysis and Research in Inorganic Chemistry. Both terms, at least 9 hours of laboratory work a week. Professor McCay.

503, 504. Metallography. Relations between the properties and the constitution of metallic alloys. Lectures, reading and laboratory work. Both terms, 3 hours a week. Professor D. P. Smith.

505, 506. Research in Metallography. Constitution and electrical properties of alloys; gas alloys. Both terms, hours to be arranged. Professor D. P. Smith.

507. Selected Topics in Advanced Inorganic Chemistry. A detailed and thorough study of certain topics in the field of Inorganic Chemistry. This course will consist of lectures, accompanied by the reading and discussion of the literature. First term, 3 hours a week. Professor Foster.

508. Gas Analysis. One lecture a week devoted to the methods involved in the determination of the properties of gases, and upon representative types of apparatus with the methods involved in their application to the analysis of various gases. At least 6 hours of laboratory work weekly are devoted to an experimental study of the gases. This work deals

with the analysis of illuminating and other gaseous mixtures. Second term, 3 hours a week. Professor Foster.

510. Chemical Crystallography. Polymorphism. isomorphism, mixed crystals, determination of transition temperatures, the comparison of crystalline forms in compounds of analogous composition, and other topics. Two lectures and at least three hours of laboratory work a week. Prerequisite course: Quantitative Analysis. Second term, 3 hours a week. Professor Van Nest.

511, 512. Research in General Inorganic Chemistry. Both terms, hours to be arranged. Professor Menzies.

513, 514. Organic Chemistry. Lectures upon special topics, accompanied by the reading and discussion of the literature. Either term, 3 hours a week. Prerequisite course: Elements of Organic Chemistry. Professor Neher.

515, 516. Advanced Laboratory work in Organic Chemistry. Preparations, special methods of analysis and research. Both terms, 3 hours a week. This course will consist of at least 9 hours of laboratory work a week. Professor Neher.

517. Electrochemistry. Lectures on the historical development of the subject, accompanied by laboratory work on Faraday's Law, conductivity, transference numbers and electomotive forces. Two lectures and laboratory work involving at least 3 hours. First term, 3 hours a week. Professor Hulett.

518. High Temperature Measurements and Electrothermics. Lectures and reading on the production of high temperatures accompanied by laboratory work in pyrometry and electrothermics. Two lectures and laboratory work involving at least three hours. Second term, 3 hours a week. Professor Hulett.

519. Photochemistry and the Chemistry of Radiant Energy. Lectures and reading on the chemical reactions produced by light and radio-active energy with recent developments in theory and practice. First term, 3 hours a week. Professor Taylor.

521, 522. Physical Chemistry. Lectures and reading devoted largely to chemical equilibrium and the energy side of chemical reactions, accompanied by lectures on chemical thermodynamics. Both terms, 3 hours a week. Professor Hulett (first term) and Professor Taylor (second term).

523, 524. Research in Physical Chemistry. The research to take any of the following directions: Equilibrium studies, determination of physico-chemical constants, colloids and suspensions. Both terms, hours to be arranged. Professor Hulett.

525, 526. Research in Electrochemistry. Standard cells, the coulometer, concentration cells, amalgams, the nature of electrodeposits and decomposition potentials. Both terms, hours to be arranged. Professor Hulett.

527, 528. Research in Physical Chemistry. Phase rule, catalysis and solubilities in acid solutions, photochemical reactions. Both terms, hours to be arranged. Professor Taylor.

SEMINARY IN PHYSICAL CHEMISTRY

Reading and discussions of selected authors and topics. Both terms, hours to be arranged. Professor Hulett.

For undergraduate courses in Chemistry also listed as graduate courses, see page 304.

GEOLOGY

All the graduate courses offered by this Department are adjustable to the needs of individuals or small groups of

students and the subject-matter and method of presentation may be modified to meet various conditions.

A candidate for a degree may devote a considerable portion of his time to one of the courses, supplementing the regular work by the investigation of some special problem which will afford the material for his thesis.

Every candidate for a higher degree in Geology is required to take the senior course in Practical Geology, 405, 406, during the first year of his attendance and to meet all the requirements of that course.

501, 502. Chemical Geology. Composition of the earth and the chemistry of geological processes. Relative abundance, distribution and association of the chemical elements; genesis and alterations of minerals; metamorphism; weathering and chemical denudation; lake and river waters; underground waters and gases, magmatic and meteroic; evolution of the ocean and the atmosphere; the geological effects of radioactivity. Both terms, 3 hours a week. Professor Smyth.

503, 504. Stratigraphy. Lecture, field, and laboratory work, leading to the study and description of the stratigraphy and tectonics of some particular district, or of the stratigraphy and palaeontology of some sedimentary formation. Both terms, continuing through one or more years, 3 or more hours a week. Professor van Ingen.

505, 506. Petrology. A general study of the igneous, sedimentary, and metamorphic rocks, followed by the detailed investigation of some problem in regard to their origin and relations. Laboratory, library, and field work continuing through one or more years, 3 or more hours a week. Professor Smyth.

507, 508. Mineralogy. The paragenesis and chemical relations of minerals, and the study of crystallographic types, with measurement and projection of crystal forms and the determination of their physical constants. Both terms, 3 or more hours a week. Professor Phillips.

509, 510. Geological History of Man. Lectures, reading, and discussion of original memoirs bearing upon the origin and geological history of man. Both terms. 3 or more hours a week. Dr. Sinclair.

511, 512. (Biology 511, 512.) Vertebrate Palaeontology. Lectures and laboratory work on the morphology and evolution of fossil vertebrates. Both terms, 3 or more hours a week. Professors Scott and Farr.

513, 514. Economic Geology. The metalliferous and non-metalliferous mineral deposits of economic importance. Their character, distribution, origin and relations, and the problems which they present. Laboratory, library and field work continuing through one or more years, 3 or more hours a week. Profesor Smyth.

515, 516. Invertebrate Palaeontology. Morphology and evolution of the more important groups of extinct invertebrates. Lectures, laboratory and field work. Both terms, three or more hours a week. Professor van Ingen.

502. Physical Geography. The relations of geography and history are shown by a series of lectures and conferences on the effect of environment upon the development of mankind, physically, socially and commercially. Second term, three hours a week. Professor Libbey.

For undergraduate courses in Geology also listed as graduate courses, see page 304.

BIOLOGY

501. Cytology. Lectures, laboratory and research work on protoplasm; the structures and functions of cells; nuclear and cell division; origin and maturation of the germ cells. First term, 3 hours a week. Alternates with course 517. [1915-1916.] Professor Conklin.

502. Ontogenesis. Lectures, laboratory and research work on the fertilization, cleavage and promorphology of the egg; phenomena of differentiation; problems of experimental embryology; the cellular basis of heredity and evolution. Second term, 3 hours a week. Alternates with course 518. [1915-1916.] Professor Conklin.

503. Comparative Histology and Histogenesis. Studies of supporting, nutritive, excretory, respiratory and several other groups of tissues, including their origin and development, repair, regeneration and metamorphosis. Lectures, laboratory and research work. First term, 3 hours a week. Professor Dahlgren.

504. Histology of the Kinetic and Nerve Tissues. Comparative studies of the organs and tissues which produce light, heat, motion, and electricity; the tissues of nervous sensation, communication, and stimulation; the organization of nerve tissues in several animal forms. Lectures, laboratory and research work. Second term, 3 hours a week. Professor Dahlgren.

505. Morphology of the Organ Systems of Vertebrates. Conferences, laboratory, and research work on the comparative anatomy and development of the organ systems of vertebrates. About 3,000 anatomical preparations and an embryological collection of about 1,000 series are at present available for reference and study in connection with this course. First term, 3 hours a week. Professor McClure.

506. Special Problems of Vertebrate Anatomy. Conferences, laboratory, and research work. This course is designed to place the student in a position to comprehend the main problems of vertebrate morphology and completes the study of the comparative anatomy and development of the organ systems of the anamnia and amniota. Second term, 3 hours a week. Professor McClure.

507. The Development of Plant Life. Studies in the structure, life-history and taxonomy of various groups of plants. First term, 3 hours a week. Professor Rankin.

508. Systematic Botany of the Vascular Plants. Structure as related to description and classification. Exercises in plant analysis, description and classification. The characters of the larger families of Angiosperms. Second term, 3 hours a week. Professor Rankin.

510. Theories of Evolution. A history of the doctrine of evolution, with discussion of the theories which have been proposed to explain the modes and factors of development. Second term, 3 hours a week. Professor Scott.

511, 512. (Geology 511, 512.) Vertebrate Palaeontology. Lectures and laboratory work on the morphology and evolution of fossil vertebrates. Both terms, 3 or more hours a week. Professors Scott and Farr.

513, 514. Physical Chemistry of the Cell. An application of the principles of physical chemistry to physiological problems. The role of diffusion, osmotic pressure, electrolytic dissociation, reaction velocity, catalytic action and surface tension in organisms, the properties of colloids, the effect of salt on cells, and the permeability of cells and tissues will be studied in considerable detail. Based on Philip's *Physical Chemistry,* and Hoeber's *Physikalische Chemie der*

Zelle und Gewebe, 3d Ed. Both terms, 3 hours a week. Professor Harvey.

515, 516. Morphology and Physiology of the Central Nervous System. A series of conferences with graduate students, together with assignments of problems and direction of research work in the field of Neurobiology. Both terms, number of hours indefinite. Dr. Paton.

517, 518. Normal and Experimental Embryology. A study of the principles of development and of embryonic differentiation. The work is both observational and experimental and includes a study of normal life histories as well as experimental studies on the factors of differentiation and development. The most important books and original publications dealing with the subject are assigned for study. Both terms, 3 hours a week. Alternates with courses 501, 502. [1916-1917.] Professor Conklin.

519, 520. Preparation of Biological Compounds. The isolation and purification of typical proteins, lipoids, carbohydrates and extractives from plant and animal tissues. Open to men having some experience in Biological Chemistry. Hawk's *Practical Physiological Chemistry,* 4th Ed. Both terms, 3 or more hours a week. Professor Harvey.

For undergraduate courses in Biology also listed as graduate courses, see page 304.

*UNDERGRADUATE COURSES ALSO LISTED AS GRADUATE COURSES

PHILOSOPHY

401. Fundamental Problems of Philosophy. Senior course, first term, 3 hours a week. Professor Kemp Smith.

402. Present Philosophical Tendencies. Senior course, second term, 3 hours a week. Professor Spaulding.

405. History of Greek Philosophy. Senior course, first term, 3 hours a week. Professor Bowman. [Not given, 1915-1916.]

407, 408. Ethics. Senior course, both terms, 3 hours a week. Professor Fite.

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401. History and Psychology of Education. Senior course, first term, 3 hours a week. Professor McComas.

407. History of Modern Science. Senior course, first term, 3 hours a week. Professor Spaulding.

HISTORY AND POLITICS

401, 402. Modern English History. Senior course, both terms, 3 hours a week. Professor van Dyke.

403, 404. American History. Senior course, both terms, 3 hours a week. Professor McElroy.

405. Municipal Government in the United States. Senior course, first term, 3 hours a week. Professor Ford.

406. Federal and State Government. Senior course, second term, 3 hours a week. Professor Ford.

407, 408. International Law and Diplomacy. Senior course, both terms, 3 hours a week. Professor Brown.

411. Constitutional Interpretation in the United States. Senior course, first term, 3 hours a week. Professor Corwin.

* These courses are described in detail in the regular statements of Undergraduate courses on pages 137 to 212.

412. Administrative Law. Senior course, second term, 3 hours a week. Professor Corwin.

421, 422 (Classics 421, 422.) Roman Law. Senior course, both terms, 3 hours a week. Professor Westcott.

ECONOMICS

409. Money and Banking. For graduate students electing this course a supplementary list of readings is provided, and a weekly conference is held. Senior course, first term, 3 hours a week. Professor Kemmerer.

410. Public Finance. For graduate students electing this course, a supplementary list of readings is provided, and a weekly conference is held. Senior course, second term, 3 hours a week. Professor Kemmerer.

ART AND ARCHAEOLOGY

401. Italian Sculpture. Senior course, first term, 3 hours a week. Professor Morey.

402. Greek Sculpture. Senior course, second term, 3 hours a week. Professor Elderkin.

405. The Revival of Painting in Italy. Senior course, first term, 3 hours a week. Professor Mather.

406. Northern Painting. Senior course, second term, 3 hours a week. Professor Mather.

407, 408. Elements of Architecture. Senior course, both terms, 3 hours a week. Professor Butler.

CLASSICS

401. Lucretius. *De Rerum Natura.* Senior course, first term, 3 hours a week. Professor Basore.

413. Tacitus. The Histories. Senior course, first term, 3 hours a week. Professor Westcott.

416. Aristotle. Senior course, second term, 3 hours a week. Professor Fox.

416 *a*. Thucydides. (Alternate of Aristotle 416.) Senior course, second term, 3 hours a week. Professor Fox.

421, 422. Roman Law. Senior course, both terms, 3 hours a week. Professor Westcott.

ENGLISH

401. Restoration and Eighteenth Century Literature. Senior course, first term, 3 hours a week. Professor Root.

403. English Romanticism. Senior course, first term, 3 hours a week. Professor Spaeth.

404. English Literature of the Victorian Period. Senior course, second term, 3 hours a week. Professor Noyes.

405, 406. Old English. Senior course, both terms, 3 hours a week. Professor Hunt.

MATHEMATICS

405, 406 *a*. Algebra. Senior course, both terms, 3 hours a week. Professor Fine. [Not given, 1915-1916.]

407. 408 *a*. Projective Geometry. Senior course, both terms, 3 hours a week. Professor Eisenhart.

409, 410 *b*. Analysis. Senior course, both terms, 3 hours a week. Professor Veblen.

PHYSICS

411, 412 *c*. Electricity and Magnetism. Senior course, both terms, 3 hours a week. Professor Adams.

413, 414 *d*. Theoretical Physics. (a) Thermodynamics; (b) The Electron Theory. Senior course, both terms, 3 hours a week. Professors W. F. Magie and Cooke.

415, 516 *e*. Experimental Physics: Electricity and Magnetism. Senior course, both terms, 3 hours a week. Professor Cooke.

CHEMISTRY

401. Quantitative Analysis. Senior course, first term, 3 hours a week. Professor McCay.

402. Quantitative Analysis. Senior course, second term, 3 hours a week. Professor McCay.

403. Organic Chemistry. Senior course, first term, 3 hours a week. Professor Neher.

404. Organic Chemistry. Senior course, second term, 3 hours a week. Professor Neher.

405. Physical Chemistry. Senior course, first term, 3 hours a week. Professor Hulett.

406. Physical Chemistry. Senior course, second term, 3 hours a week. Professor Hulett.

409, 410. Advanced Inorganic Chemistry. Senior course, both terms, 3 hours a week. Professor Menzies.

GEOLOGY

401, 402. Historical Geology. Senior course, both terms, 3 hours a week. Professors Scott and van Ingen.

403. Structural and Dynamic Geology. Senior course, first term, 3 hours a week. Professor Smyth.

404. Economic Geology. Senior course, second term, 3 hours a week. Professor Smyth.

405, 406. Practical Geology. Senior course, both terms, 3 hours a week. Professor van Ingen.

407. Crystallographic Mineralogy. Senior course, first term, 3 hours a week. Professor Phillips.

408. Optical Mineralogy. Senior course, second term, 3 hours a week. Professor Phillips.

BIOLOGY

401. Comparative Anatomy of Vertebrates. Senior course, first term, 3 hours a week. Professor McClure and Mr. Silvester.

402. Vertebrate Embryology. Senior course, second term, 3 hours a week. Professor McClure and Mr. Silvester.

403. Histology. Senior course, first term, 3 hours a week. Professor Dahlgren.

404. Advanced Histology, and Neurology. Senior course, second term, 3 hours a week. Professor Dahlgren.

406. Vertebrate Palaeontology. Senior course, second term, 3 hours a week. Professors Scott and Farr.

407, 408. General Physiology. Senior course, both terms, 3 hours a week. Professor Harvey.

409, 410. Genetics. Senior course, both terms, 3 hours a week. Professor Shull.

ASTRONOMY

401, 402 *b*. Celestial Mechanics. Senior course, both terms, 3 hours a week. Professor Russell.

DIRECTORS OF THE SEMINARIES

1915-1916

Philosophical Seminary
Professor Fite

History and Politics Seminary
Professor Corwin

Economics Seminary
Professor Kemmerer

Classical Seminary
Professor Stuart

English Seminary
Professor Osgood

Romance Seminary
Professor Buffum

Germanic Seminary
Professor Priest

Mathematical Seminary
Professor Fine

THE UNIVERSITY LIBRARY

ERNEST CUSHING RICHARDSON, PH.D., *Librarian*
GEORGE DOBBIN BROWN, PH.D., *Reference Librarian*
HENRY BARTLETT VAN HOESEN, PH.D., *Curator of Manuscripts and Rare Books*
HOWARD SEAVOY LEACH, A.M., *Reference Assistant*
MISS CHARLOTTE MARTINS, *Superintendent of Purchase*
MISS LETITIA NASSAU GOSMAN, *Superintendent of Catalogue*
WALTER RUE COTTRELL, *Superintendent of Circulation*
DAVID WALTER DUFFIELD, *Superintendent of Printing and Binding*

MISS JANE WRIGHT, *Art Reference Librarian*
MISS REBECCA SARAH CAWLEY, *Department Librarian, Guyot Hall*
MISS FLORENCE LOUISE HURD, *Department Librarian, Economics*

The Library began with the College, Governor Belcher, the patron of the College, directing his especial attention and interest to it, and leaving to it his collection of 474 volumes. When the first catalogue was printed in 1760, the Library consisted of about 1,300 volumes. It was increased largely in the sixties, but was decimated during the Revolution and in 1796 numbered only 2,300 volumes. It was partly destroyed by fire in 1802, but shortly afterward its size was fully restored by gifts. In 1816 it numbered 7,000 volumes; in 1839, 8,000; and in 1850 it had advanced to 9,313 volumes. In 1868 it contained but 14,000 volumes, without separate building or librarian.

THE CHANCELLOR GREEN LIBRARY

In 1868 the Elizabeth Fund for the purchase of books was created by John C. Green, Esq., and soon afterward he erected a library building (in 1872-73) named in honor of Chancellor Green. This Chancellor Green Library building, fitted throughout with the most modern system of heating, ventilation, and electric lighting, is the working library of the University for undergraduates, containing the standard

and latest works in all departments and especially fitted for study. In addition the Chancellor Green Library contains the following special collections:

The Charles Ewing Green Alcove. The alcove facing the public entrance to the Chancellor Green Library has been set aside as a memorial to the late Charles Ewing Green, LL.D., class of 1860, for many years a Trustee of the University, and, as the administrator of the John C. Green estate, one of Princeton's most generous and consistent benefactors. To commemorate the active interest which he always took in the Chancellor Green Library as well as in the general library development of the University, the late Mrs. Charles E. Green erected in this alcove a memorial tablet, and placed upon the shelves books on classical philology. There are 3,300 volumes in this collection.

The Class of 1878 Library of Chemistry, established and endowed in 1889, numbering 224 volumes, distributed among the collections relating to this subject. Location: alcoves Y and Z, gallery.

The Class of 1883 Library of Political Science and Jurisprudence, founded and endowed in 1893, contains 1,056 volumes. Location: alcove X, gallery.

The Class of 1889 Library of American History, established and endowed in 1899, contains 1,077 volumes. Location: alcove C, main floor.

The Bower Collection, a selection of books mainly on History and Literature from the library of the late Laurence Foster Bower, class of 1896, which contains 3,489 volumes. Location: alcove H, main floor.

The European War Collection, consisting of 1,755 books and pamphlets relating to the European war. Location: alcove D and tables, main floor.

The Mrs. J. O. H. Pitney Collection of International Law and Diplomacy, presented by Mrs. John Oliver Halsted Pitney. 187 volumes. Location: alcove X, gallery.

THE PYNE LIBRARY BUILDING

The Chancellor Green building having long been crowded beyond its calculated capacity, provision was made on the occasion of the Sesquicentennial by the late Mrs. Percy Rivington Pyne, for a new building with a capacity of 1,200,000 volumes, besides adequate administration rooms, twenty rooms for instruction and research, and a large room for the exhibition of rare books. This building, of Longmeadow stone, in the Oxford Gothic style, forms a hollow quadrangle of about 160 feet square, connected with the Chancellor Green Library by a delivery room, of 50 by 20 feet. It is fitted with modern improvements in heating, ventilation, stacks, electric elevators, interior telephone, etc., and has shelves at present sufficient for about 500,000 volumes. On the exterior of the western tower gateway are statues of President Witherspoon and President McCosh, James Madison, class of 1771, fourth President of the United States, and Oliver Ellsworth, class of 1766, second Chief Justice of the United States Supreme Court.

THE CENTRAL COLLECTION

The general collection, which occupies the united buildings, consists of 353,845 volumes and 86,608 unbound periodicals and pamphlets. It includes, in addition to those already mentioned, the following special collections:

SPECIAL COLLECTIONS

The Autograph-Manuscript Collection, relating chiefly to the history of the University. This includes the Pyne-Henry collection, the Abbott papers, the Hunt papers, the Miller papers, the Maclean papers, recently presented by the Misses Maclean, and miscellaneous, 6,404 documents. Location: exhibition room.

The Morgan Collection of Virgils, presented by Junius

S. Morgan, Esq., '88. 672 volumes. Location: exhibition room.

The Pierson Civil War Collection, presented by John S. Pierson, Esq., '40. 6,701 volumes; 2,580 unbound pamphlets; including also several thousand clippings. Location: stack, fourth floor.

The Paton Spanish War Collection of newspapers and magazines, presented by William Agnew Paton, Esq. 70 volumes. Location: stack, fourth floor.

The European War Collection. (See under the Chancellor Green Library.)

The Princeton Universty Collection, including the large collection of Princetoniana presented by Professor William Libbey, '77, also the Witherspoon collection (259 volumes) and the Cleveland collection (132 volumes). 6,927 volumes. Location: stack, fourth floor.

The Class of 1875 Library of English Poetry and Drama. 2,485 volumes, distributed among the collections relating to these subjects.

The Music Library, founded by Rudolph E. Schirmer, '80, John W. Garrett, '95, and Lewis F. Pease, '95. 3,921 volumes and about 3,700 pieces of sheet music, located in alcove R, Chancellor Green Library, and stack, third floor.

The Garrett Collection of Oriental Manuscripts, consisting of about 2,400 manuscripts, chiefly in Arabic, but including 75 manuscripts in twenty-five other languages, *e.g.,* Latin, Greek, English, Persian, Pali, Javanese, Chinese, Japanese, etc., deposited in the University Library. This collection is most exhaustive and includes books on law, medicine, mathematics, natural sciences, poetry, history, biography, geography, travels, rhetoric, grammar, and lexicography, as well as works on the Mohammedan religion and the exegesis of the Koran. Location: northwest corner, second floor.

The Collection of Cuneiform Documents, consisting of approximately 520 items at the time of its foundation by M. Taylor Pyne, '77, Junius S. Morgan, '88, and others; and enlarged in 1913 by 623 tablets presented by Professor R. E. Brünnow, Robert Garrett, '97, Cyrus H. McCormick, '79, M. Taylor Pyne, '77, Russell W. Moore, '83, and others; and by thirty-five tablets presented by Wilfred J. Funk, '09 and George W. Gilmore, '83. Location: exhibition room.

The Willard Hall Porter Law Library, presented by Mrs. Willard Hall Porter and her son, W. H. Porter, Jr., 1903. 1,800 volumes. Location: stack, fourth floor.

The Pliny Fisk Statistical Library, presented by Pliny Fisk '81, consisting of about 5,000 volumes, 13,000 pamphlets, 39,000 broadsides, letters, etc., and several hundred thousand clippings mounted on about 70,000 classified sheets. Location: southeast corner, fifth floor.

The Samuel Miller Collection, presented by Samuel Miller Breckinridge Long, 1903, in memory of Judge Samuel Miller Breckinridge, '50. 1,200 volumes distributed through related subjects.

The Patterson Collection, consisting of 1,003 Horaces and other rare and choice books, presented by Robert W. Patterson, Esq., '76. Location: exhibition room.

The Bergen Collection, consisting of 179 rare and choice books, chiefly modern, presented by the Rev. G. S. Bergen in memory of his son, Ernest G. Bergen, '95. Location: stack, fourth floor.

The Ivy L. Lee Collection, consisting of about 85 books on Russia, presented by Ivy L. Lee, '98. Location: stack, first floor.

The Whig Hall Collection, consisting of 4,163 volumes, presented by Whig Hall, distributed through related subjects.

The Clio Hall Collection, consisting of 3,036 volumes, presented by Clio Hall, distributed through related subjects.

The Nelson Collection of New Jerseyana, deposited in the University Library by the Hon. William Nelson. This consists of 2,520 volumes and pamphlets relating to the history of New Jersey. Location: stack, fourth floor.

The Collection of New Jersey Imprints, consisting of 233 volumes, presented by the Hon. William Nelson. Location: stack, fourth floor.

The Collection of Books for the Blind, consisting of 95 volumes, English, Greek, and Latin. Printed in American Braille and New York Point. Location: stack, fourth floor.

The Paton Collection of Oriental Philology and History. (See "Semitic Seminary" under "Seminary and other Special Libraries.")

Special collections, other than of books or manuscripts, are:

The Garrett Collection of Coins, deposited in the University Library. This collection, embracing also specimens from many foreign countries, contains an unusually fine series of American coins. In addition to the coins that have been used for money the collection includes many medals commemorative of notable historic events and persons.

The Hutton Collection of Death Masks, presented by the late Lawrence Hutton, A.M., 80 masks. Location: exhibition room.

The Hutton Memorial Collection, consisting of several hundred books, autographed portraits, paintings, etc., from the library of the late Laurence Hutton, A.M. This collection was left by Mr. Hutton to trustees to be put in some safe place for a permanent memorial and was presented by them to the University. Location: exhibition room.

The Meirs Collection of Cruikshankiana, deposited in the University Library by Richard W. Meirs, '88. This consists of 794 volumes of Cruikshankiana, with 621 broadsides, original water color drawings, oil paintings, autograph let-

ters, etc. The editions are unusually choice as to condition; the unique drawings and manuscripts numerous and of historical importance. Location: exhibition room.

SEMINARY AND OTHER SPECIAL LIBRARIES

Certain rooms in the Pyne Library Building are available for the use of the seminaries, organized under the rules of the Faculty for "the development among our higher students of independent scholarly ability by extensive advanced study and training in the methods of original research." Several rooms have been assigned and provided with special libraries, partly by loan from the main collection, but chiefly by special endowment and purchase. The following have been established:

The Philosophical Seminary. Founded by Mrs. C. B. Alexander (ethics), and by the Class of 1882 (logic and metaphysics). 1,962 volumes; 1,526 theses. Location: southeast corner, first floor.

The Economic Seminary. Founded by the Class of 1888. 3,980 volumes, and the Pliny Fisk Statistical Library. Location: southeast corner, first floor, and fifth floor. (See "The Pliny Fisk Statistical Library," under "Special Collections.")

The Political Seminary. Founded by various alumni and friends. 870 volumes. Location: southeast corner, second floor.

The Classical Seminary. Founded by a friend of the University. 8,187 volumes; 22,314 theses. The Classical Seminary at present occupies five rooms in the southwest corner of the building.

The Latin Pro-Seminary. 200 volumes. Location: Room 43, McCosh Hall.

The English Seminary. Founded and supported by Charles Scribner, Esq., '75. 2,899 volumes; 1,136 theses. Location: northwest corner, first floor.

The Romance Seminary. Founded by the Class of 1890. 3,187 volumes; 1,803 theses. Location: northwest corner, first floor.

The Mathematical Seminary. Founded by the late John L. Cadwalader, '56; Professor M. Allen Starr, M.D., LL.D., '76; David B. Jones, Esq., '76; Thomas D. Jones, Esq., '76; Chandler W. Riker, Esq., '76; and the Hon. Adrian Riker, '79. 3,261 volumes; 1,937 theses. Location: northwest corner, second floor.

The Historical Seminary. Founded by Mr. and Mrs. M. Taylor Pyne in memory of Robert Stockton Pyne. 4,004 volumes. Location: southeast corner, second floor.

The Germanic Seminary. Founded by the Class of 1891, and including the library of the late Professor Willard Humphreys. 3,140 volumes; 1,808 theses. Location: southeast corner, first floor.

The Semitic Seminary. 8,125 volumes, including the Paton Collection of Oriental Philology and History of 4,292 volumes deposited by David Paton '74. Location: stack, west tower, fifth floor, and room adjoining.

DEPARTMENT LIBRARIES

These are libraries selected from the general collection and kept in proximity to the corresponding laboratories. The following are organized:

Art; the Marquand Collection, presented by Professor Allan Marquand, '74, consisting of 6,541 volumes on the history of art. In the Art Museum.

Astronomy; containing at present 1,551 volumes and 595 theses. In the Working Observatory.

Biology (including Botany and Zoology); founded by Charles W. McAlpin, '88, and supported largely by Mr. McAlpin and the "Frank Hartley Memorial Fund" 13,266 volumes; 731 theses. In Guyot Hall.

Geology and Palaeontology; 6,762 volumes and 493 theses. In Guyot Hall.

Engineering; including the Class of 1878 Library of Engineering; 866 volumes. In the School of Science Building, second floor.

Physics; the Brackett Library, presented by the late Stephen S. Palmer, David B. Jones '76 and Thomas D. Jones '76; containing 2,248 volumes. In Palmer Physical Laboratory.

USE OF THE LIBRARY

The Library is open from 8 A. M. to 10 P. M. on week-days and from 12 M. to 5 P. M. on Sundays during term time. It is open on week days from 9 A. M. to 1 P. M. in vacation.

Books may be drawn by all officers and students of the University and Theological Seminary, and by any person properly introduced. The number of books which may be taken is limited to three in the case of undergraduates, with the exception of seniors, who may take five. Officers, Fellows, and graduate students may take any reasonable number. Books may be kept by undergraduates for two weeks, by Fellows and graduate students for four weeks, and by officers for any reasonable time. All books may be renewed when due, unless wanted by some one else.

Fines are charged at the rate of two cents a day on all books kept overtime. If an overdue book is wanted at the Library for any reason, it may be sent for and a charge of ten cents for messenger made. Postal cards are sent as a reminder of books overdue only when the books are wanted by others. No books may be drawn while there are unpaid fines.

THE HALL LIBRARIES

The American Whig and Cliosophic Societies have turned over a large part of their books to the University Library, but each has in its own building a convenient working library. The library of the Philadelphian Society contains about 500 volumes.

THE THEOLOGICAL SEMINARY LIBRARY

Students of the University are allowed to use the library of the Princeton Theological Seminary, which contains 100,416 volumes, distributed in two buildings. The one, the general library, is open for consultation and loan of books from 9 A. M. to 1 P. M. and from 2 to 4 P. M. on week-days, except Saturday, when the hours are from 9 A. M. to 1 P. M. The other, the reference library, is open every week-day from 9 A. M. to 1 P. M., from 2 to 5 P. M., and from 7 to 10 P. M.

SUMMARY OF LIBRARIES

University Library	353,845
Hall Libraries	5,500
Theological Seminary Library	100,416
Total (exclusive of pamphlets and duplicates)	459,761

PART VI

GENERAL REGULATIONS; RELIGIOUS WORSHIP AND ACTIVITIES; AND PUBLIC LECTURES

GENERAL REGULATIONS

TERMS AND VACATIONS

The Annual Commencement takes place on the Tuesday preceding the last Wednesday but one in June. The University opens on the Tuesday thirty-eight weeks preceding the date of the Annual Commencement.

The academic year is divided into two terms of eighteen weeks each. The first term of the next academic year (1916-1917) will begin on Tuesday, the 26th of September, 1916, and end on Tuesday, the 13th of February, 1917. The second term will begin on Wednesday, the 14th of February, 1917, and end on Tuesday, the 19th of June, 1917, the day of the annual Commencement.

The Thanksgiving Recess in 1916-1917 will extend from November 29, 1.30 p. m., to December 4, 10.30 a. m.; the Christmas vacation from December 19, 1.30 p. m., to January 3, 10.30 a. m.; and the Easter Recess from April 4, 1.30 p. m., to April 10, 10.30 a. m. Also, there are no class exercises on Washington's Birthday. There is no summer session.

The Baccalaureate address to the graduating class is delivered on Sunday of Commencement week.

The Class Day exercises of the graduating class and the annual meetings of the Literary Societies are held on Monday of Commencement week. The alumni trustee election and the annual alumni luncheon are held on Commencement Day.

REGULATIONS CONCERNING REGISTRATION AND THE CHOICE OF ELECTIVES

RULES FOR REGISTRATION

At the beginning of the academic year each undergraduate student shall report in person at the Registrar's Office

before 3 p. m. on the Tuesday on which the University opens, and register his full name, home address, and Princeton address.

In every case of neglect or delay in registration three absences will be recorded against the student for each day that the registration is delayed. Serious cases will be punished by putting the student on probation, by suspension, or otherwise, as the Faculty may determine.

Any absence from a class exercise incurred in the three days before or after a vacation or recess shall count as equivalent to two absences incurred at any other time.

CHOICE OF ELECTIVES

It is very desirable to obtain from each student his choice of electives as early as possible, so that the rolls of the elective classes may be made out before the opening of the term. The students are therefore requested to report to the Registrar their choice of electives for the first term of the next academic year [1916-1917] on or before the 16th of May. Changes which the student desires to make in his choice may be made by letter to the Registrar in the summer vacation. No changes will be allowed after the 23rd of September.

The choice of electives for the second term of the current academic year must be reported to the Registrar on or before the 17th of January. No changes will be allowed after the 31st of January.

The penalty for delay in reporting the full list of electives for the term shall be the record of one absence each day for each elective not reported until the list is complete; this delay to be reckoned from the registration at the beginning of the academic year or from the 17th of January. Serious cases shall be punished more severely as the Faculty may determine. If the student enter any elective class

after exercises with that class have been held, he shall be reported by the instructor as absent from those exercises.

REGULATIONS CONCERNING ATTENDANCE

1. The Dean of the College has charge of all matters pertaining to attendance on chapel and class exercises. Office hours from 2 to 3 p. m. daily except Saturday, in Nassau Hall.

2. Every undergraduate student in residence at the University is required to attend at least one-half of the Sunday Chapel services each quarter, unless excused by the President or the Dean of the College. Failure to comply with this rule will render him liable to suspension.

3. In case of persistent neglect to attend Sunday Chapel services the Dean of the College has authority to compel attendance at specified times and under specified conditions, under penalty of suspension.

4. Juniors who in their sophomore year maintain a general standing of first or second group, seniors who in their junior year maintain a general standing of first or second group, and juniors and seniors who are regularly admitted to candidacy for final special honors, are excused from compulsory attendance upon class exercises so long as they maintain a general standing of first or second group, or remain elegible for final special honors.

5. Every other undergraduate student is required to attend the scheduled exercises of his class. A student who for any cause incurs 40 absences in any term or in any two successive terms, must take an extra course of three hours a week in the next term. All absences above 40 will be counted toward an additional extra course. In case of an unavoidable absence for a prolonged period, the application of this rule may be modified by the Faculty upon recommendation of the Dean of the College.

6. If any senior becomes liable for an extra course through absences incurred in the second term, the awarding of his degree shall be deferred until after Commencement. Exemption from the application of this rule may be granted by the Faculty upon the recommendation of the Dean of the College.

7. Flagrant cases of absence will necessitate immediate withdrawal from the University.

MODE OF CONDUCTING EXAMINATIONS

All written examinations and written recitations are conducted under the honor system. A student is not watched during an examination by any officer of the University, but he is required to write on his paper a pledge that he has not been guilty of any dishonesty or irregularity in connection with the examination.

The administration of the honor system is in the hands of a student committee by whose rules it is the recognized duty of every student to report to the committee any evidence of dishonesty in examination that may come under his observation. If after investigation of such evidence the committee finds a student guilty of dishonesty, it reports his case to the Faculty with a recommendation that he be finally dismissed from the University.

REGULATIONS RESPECTING CONDITIONS AND ABSENCE FROM EXAMINATION

I

Conditions are incurred:

(1) By failure to satisfy the requirements of any course. The requirements of a course include both the term work and the examination.

(2) By exclusion from an examination on the recommendation of a preceptor. On the recommendation of a

preceptor a department may exclude a student from the examination in any course in which his work with the preceptor has been unsatisfactory.

(3) By exclusion from an examination on the recommendation of a laboratory instructor. On the recommendation of a laboratory instructor a department may exclude a student from the examination in any course in which his work with the laboratory instructor has been unsatisfactory.

(4) By absence from an examination. Absence from an examination, due to whatever cause, is counted as a condition if the term grade in the subject is below the passing mark. When a student's term grade in a subject is above the passing mark, the examination may be postponed on account of illness (*a*) at the time of the examination, (*b*) immediately preceding it, (*c*) during a considerable portion of the term; such a postponement must be authorized by the Committee on Examinations and Standing before the time of the examination, unless the student is ill at the time of the examination. In all cases of absence from an examination, the deficiency must be made up as if it were a condition.

II

(1) A student who, at the end of a term, has conditions amounting to half a term's work, or more, is dropped from his class. In applying this rule (1) not only conditions of that term are counted, but also conditions of a year's standing or more, and all entrance conditions, provided the student has been in Princeton more than a year; (2) unavoidable absence from an examination shall be counted as a condition one year after the date of the omitted examination, unless meanwhile the deficiency has been made good.

(2) A student of the Department of Civil Engineering thus deficient, or a freshman who at the end of his first

term fails in half of his work, or more, may after the lapse of a whole term during which he must be absent from Princeton, and with the permission of the Faculty, enter the next lower class; but a student dropped from his class at the end of an academic year may, with permission of the Faculty, be allowed to enter the next lower class at the beginning of the next academic year. (See Sec. II, 7.)

(3) Any other student, except a senior, thus deficient may, after the lapse of a whole term during which he must be absent from Princeton, and with the permission of the Faculty, either enter the next lower class, or re-enter college with an arrangement of studies which will make it possible for him to meet the requirements for his degree by the February following the graduation of his class; or, if the quality of his work warrants it, he may be permitted to take extra courses and graduate with his former class; but a student dropped from his class at the end of an academic year may, with the permission of the Faculty, be allowed to enter the next lower class at the beginning of the next academic year. (See Sec. II, 7.)

(4) A student thus deficient at the end of the first term of senior year may, with the permission of the Faculty, continue with his class during the second term, but an opportunity is not given him until the next academic year to remove his condition in first term courses, and thus to qualify for his degree.

(5) A student of the Department of Civil Engineering who, after the conditional examinations in September, has standing against him a condition in any mathematical or technical course shall be dropped from his class. (In cases where this rule applies, it will replace rules 8 and 9 of Section III.)

(6) A senior who receives conditions during his final examinations has an opportunity to remove these condi-

tions before Commencement unless his total deficiency amounts to half of a term's work or more. But see Sec. III, 1, 8 and 9). In applying this rule all conditions, of whatever term, and also all entrance conditions, are counted. If he then removes all his conditions, he may be recommended to receive a degree with his class. No further opportunity is given him until the next academic year to remove his conditions and thus to qualify for a degree.

(7) A student who has been dropped from his class for failure in his studies and who wishes to re-enter the University must make application for permission to do so through the Registrar. If re-admitted, he will be on trial for one term, this trial to be terminable at any time by the Faculty if his work is unsatisfactory.

III

Examinations for the removal of conditions occur as follows:

(1) For the removal of entrance conditions by examination opportunities are given at the regular entrance examinations in June and September. No examination for the removal of an entrance condition is given to a senior after the regular examination period in September.

(2) If a freshman having an entrance condition in a subject maintains a standing of third group, or better, for the year, in all the courses which he takes in the department concerned, the condition will be cancelled, provided that he have a certificate from his school stating that he has met the requirements of the subject in his school.

(3) A student having an entrance condition still standing at the beginning of sophomore year, or later, will be required to take, for the purpose of cancelling the condition, an additional course or courses in the department concerned, under the direction of the Committee on Examina-

tions and Standing. A course so taken becomes part of the student's schedule and a condition in it will be treated the same as a condition in any other course.

(4) Examinations for the removal of conditions incurred by seniors at the end of the first term of senior year are given during the days immediately preceding the Easter recess. These examinations may be taken only by seniors. (But see Sec. II, 4.)

(5) For the removal of all conditions examinations are held during the two weeks beginning on the second Wednesday preceding the opening of the University in September.

(6) There are no other opportunities for the removal of a condition by examination, except at the examination period corresponding to the one when the condition was originally incurred, and then only by an arrangement made with the examiner previous to the examination period.

(7) Upon application to the Faculty a student may be allowed to remove a condition in an elective course by taking and satisfying the requirements of an extra elective course of at least as many hours. But only one such extra course may be taken in any term, and this course must be applied for before the opening of the term in which it will be taken.

(8) A student who is excluded from an examination by a department on the recommendation of a preceptor or of a laboratory instructor (see Sec. I, 2 and 3), is not allowed an examination for the removal of the condition incurred, but must either repeat the course or substitute an extra course for it, as the Committee on Examinations and Standing shall direct. A senior who, in the second term, falls under this rule may remove the condition by examination, but not until the next academic year.

(9) Whenever the Committee on Examinations and Standing, acting on its own motion or on the recommenda-

tion of any department of the University, finds that a student has neglected the work of a course in which he has incurred a condition, such condition cannot be removed by examination, but only by repeating the course or by substituting an extra course for it, as the Committee on Examinations and Standing shall direct. A senior who, in the second term, falls under this rule may remove the condition by examination, but not until the next academic year.

IV

A fee of $3 shall be charged for each examination taken for the removal of a condition; also for the examination in a course which has been repeated (see Sec. III, 8, 9), or which has been taken for the removal of a condition (see Sec. III, 7).

FRESHMAN TESTS

(1) At three set times in each term general uniform tests shall be held in all the subjects of freshman year, and upon a combination of the marks obtained in these tests and in the recitations, a report of the standing of each student shall be handed in to the Registrar's office within five days from the date of the test.

(2) The deficiencies reported shall be investigated in personal interviews with the students for the purpose of finding out the nature and the cause of such deficiencies.

(3) A student who is deficient in eight or more hours shall be put on probation and shall be debarred from participation in all extra-curriculum activities.

(4) A student who flagrantly and persistently neglects his work shall be compelled to withdraw from the University, and shall be subject to the rules governing students dropped at the end of the term.

STANDING

The results of the term examinations are combined with those of the work done during the term to decide the relative standing or rank of the student.

The rank in each course is determined by the instructor, who computes from the term work and examinations the marks of the class; those who have satisfied the requirements of the course are classified in five groups in the order of merit.

The first group indicates very high standing and contains not more than ten per cent of the entire class.

The second group indicates high standing and contains not more than twenty per cent of the entire class.

The third group indicates medium standing and contains not more than thirty-five per cent of the entire class.

The fourth group indicates low standing and contains not more than twenty-five per cent of the entire class.

The fifth group contains the remainder; it indicates very low standing.

The general rank of a student is determined by combining his group numbers in the several courses in proportion to the allotted schedule time of each. The students whose averages are highest and above an established limit, are assigned to the first general group; those next highest to the second general group, and so on through the general groups.

A report of the standing of each student is made to his parent or guardian by the Registrar at the close of the first term and at the close of the year. The latter report gives also the standing for the whole year.

DEGREES

A student who passes his final examinations is ordinarily recommended by the Faculty for the degree appro-

priate to his course, and if the recommendation is approved by the Trustees, the degree is conferred at Commencement and the diploma of the University is given.

FINAL RANK

The final rank of members of the graduating class is computed by combining the averages for the several years of the course, except that the average for the freshman year is omitted in those cases in which it would lower the standing of the student. Special Honors in particular departments are awarded. (See page 124.)

COMMENCEMENT SPEAKERS

The student whose individual rank is highest is ordinarily awarded the Latin Salutatory by vote of the Faculty. The Valedictory is awarded with special regard to the qualifications of the student as a valedictorian as well as on the ground of scholarship.

In the award of all degrees and honors, regard is had to the conduct of the student during his course, and any student who has incurred serious discipline may be debarred from the rank to which otherwise his scholarship would have entitled him.

INFIRMARY REGULATIONS

1. The Sanitary Committee shall have general control of the medical administration of the Infirmary, the care of patients and the relations of physicians or nurses to the Infirmary, or to each other, subject to the approval of the Board of Trustees.

2. The University Physician will be in attendance at the Infirmary every day from 8.00 to 10.00 a. m., and from 5.00 to 6.00 p. m. There will be no charge for students for consulting him at the Infirmary.

3. Any physician legally registered or licensed to practise medicine in the State of New Jersey will be privileged to attend patients in the Infirmary upon the approval of the Sanitary Committee. Physicians who desire to attend patients at the Infirmary will make application to the Secretary of the Sanitary Committee. This rule does not apply to physicians or surgeons called in consultation by an attending physician.

4. Assignments of patients to individual rooms at the Infirmary will be made at the discretion of the University Physician.

5. Should the number of patients at the Infirmary at any time become so large as to require the removal elsewhere of convalescents to make room for cases of serious illness, it shall be the duty of the University Physician to determine which patients may, with safety, be removed in the emergency.

6. Only emergency cases will be operated on at the Infirmary.

7. Every patient will be required to leave the Infirmary promptly after being dismissed by his physician.

8. Patients who have been dismissed from the Infirmary and who desire to return there for dressings, will be attended by the University Physician during the regular dispensary hours from 8.00 to 10.00 a. m., and from 5.00 to 6.00 p. m.

9. If special nurses are required, they will be procured at the direction of the University Physician and controlled by the Infirmarian and an extra charge made to the patient.

10. Visitors and patients will be admitted between the hours of 1.30 and 5.30 p. m. Visitors are not admitted to the contagious ward.

RELIGIOUS WORSHIP AND ACTIVITIES

Divine service, under the direction of the President of the University, is held on Sunday mornings at 11 o'clock, vespers are held on Sunday afternoons at 5.30, and morning prayers are offered each week-day morning at 9.15. At the Sunday morning services the members of the University have the privilege of hearing sermons by prominent clergymen of the various denominations, who frequently also conduct the morning prayers on Mondays. The vesper services are usually devoted entirely to prayer and song; but twice each year, once in the autumn and once in the spring, the sacrament of the Lord's Supper is celebrated. These services, all of which are conducted directly by the University, are held in Marquand Chapel.

THE PHILADELPHIAN SOCIETY

The Philadelphian Society, with its headquarters in the group of buildings known as Murray-Dodge Hall, is the Student Young Men's Christian Association of Princeton University and aims to be the center for the religious life and social service activities of the students. This Society was founded in 1825. The group of students who established the Student Department of the Y. M. C. A., out of which has sprung the World's Student Christian Federation, went out from Princeton in 1877, as representatives of the Philadelphian Society, and the Student Volunteer Movement for Foreign Missions also was started by members of the Society who attended the first student conference at Northfield in 1888.

Murray Hall, erected in 1879 from a bequest left for the purposes of the Society by Hamilton Murray, of the

class of 1872, contains an auditorium and a room for general social and business purposes. Dodge Hall, connected with Murray Hall by an ambulatory, is the gift of the late William E. Dodge, and his son, Cleveland H. Dodge, Esq., of the class of 1879, in memory of the late W. Earl Dodge of the same class. It contains four rooms for the religious meetings of the four classes, a handsomely furnished reading room, a committee room, and apartments for one of the Secretaries. The privileges of this building are extended to all students of the University irrespective of their relations to the Philadelphian Society.

The Society supports the chapel services of the University; holds devotional meetings of a general nature on Thursday evenings, when addresess are made by distinguished visiting Christian leaders; and has class devotional meetings in the four rooms of Dodge Hall each Sunday evening. The intellectual study of the Bible, the mission field and social problems is carried on through groups led by upper classmen in the case of the freshmen and by members of the Faculty and religious leaders of Princeton for the upper classes. Service of all kinds is promoted among the students in the town of Princeton, in the rural districts, in Trenton, and to some extent in New York and Philadelphia.

The Summer Camp for poor boys of New York City is conducted by the students of the University at the beautiful camp site located on the Metedeconk River, near Bayhead, New Jersey.

Another important department of the work of the Society is that which is conducted in China under the name of "The Princeton Work in Peking," which consists of the support of Robert R. Gailey '96, Director, Dwight W. Edwards '04, J. Stewart Burgess '05, Amos N. Hoagland '06, and D. W. Carruthers '15, who are in charge of the extensive Y. M. C. A. work in this capital city of China, where the

majority of the students of that Republic come under their direct influence.

The members of the Board of Directors of the Philadelphia Society are: President John Grier Hibben '82, *Ex-Officio,* Rev. John McDowell '94, Chairman; Charles W. McAlpin '88, Treasurer; Rev. J. Ross Stevenson, D.D., Rt. Rev. Paul Matthews '87, Robert E. Speer '89, T. H. P. Sailer '89, James E. Bathgate, Jr., '94, Robert Garrett '97, Lucius H. Miller '97, Ralph W. Harbison '98, Raymond B. Fosdick '05, Norman M. Thomas '05, and T. Newell Pfeiffer '08. The Secretaries, who have their offices in Dodge Hall, are Thomas St. Clair Evans '97, General Secretary, and Weir Stewart '15, Associate Secretary. The Church representative for the Episcopal Church is Rev. Ralph B. Pomeroy.

THE ST. PAUL SOCIETY

The St. Paul Society is composed of students who are connected with the Episcopal Church and is affiliated as the Episcopal Department of the Philadelphian Society. Its work includes the maintaining of Sunday services in a number of small communities near Princeton, assisting in the work of the local parish and seeking to strengthen and deepen the religious life of the Episcopalian students by providing special opportunities for services and celebrations of the Holy Communion. It also endeavors to interest Episcopalians in the general religious life of the University as offering them an opportunity to evidence the existence of the spirit of devotion which the society seeks to stimulate.

There are no formal terms of admission and no dues. Any undergraduate who claims connection with the Episcopal Church is welcome at any meeting or service. A reception to entering students is given early in the fall where an opportunity is furnished to learn in more detail the purpose and work of the Society.

PUBLIC LECTURES

TRASK LECTURES

The income from $10,000, presented by the late Spencer Trask of the Class of 1866, is available to secure the services of eminent men to deliver public lectures before the University on subjects of special interest. The lecturer for the current year is Professor Paul Jules Joseph van den Ven, D. Phil. et L., formerly of the University of Louvain.

STAFFORD LITTLE LECTURESHIP ON PUBLIC AFFAIRS

Founded in 1899 with a gift of $10,000 by the late Henry Stafford Little of the Class of 1844. At the suggestion of the donor, the Hon. Grover Cleveland, ex-President of the United States, was invited to deliver before the students of the University "such lectures as he might be disposed to give from year to year," and until his death in 1908 Mr. Cleveland was the Stafford Little Lecturer. The lecturer for the academic year 1914-15 was Colonel George W. Goethals, U. S. A. The Stafford Little Lectures have all been published by the Princeton University Press.

THE LOUIS CLARK VANUXEM FOUNDATION OF PRINCETON UNIVERSITY

A bequest of $25,000 under the will of Louis Clark Vanuxem of the Class of 1879. By direction of the executors, the income of this foundation is to be used for a series of from four to six public lectures before the University annually, at least one half of which shall be on subjects of current scientific interest. The lectures are to be printed and distributed among schools and libraries generally. They are

published annually by the Princeton University Press. The lecturer for the academic year 1914-15 was Sir Walter Raleigh, Professor of English Literature at the University of Oxford.

UNIVERSITY LECTURES ON CHRISTIANITY

In June, 1914, the Board of Trustees established an annual course of university lectures on the Nature of Christianity or on the History and Literature of the Bible, to be given each year by a scholar of recognized ability and learning. The lecturer for 1914-1915 was Ex-President Francis Landey Patton, D.D., LL.D., who delivered a course of five lectures on "Christianity and the Modern Man."

THE ALBERT PLAUT CHEMICAL CLUB FUND

Established in 1912 with a gift of $5,000 by Mr. Albert Plaut, of New York. The income is to be used for the benefit of the Chemical Club, and primarily for providing lectures before the club by men of distinction in the field of industrial chemistry or a related science.

PART VII

GROUNDS AND BUILDINGS, AND INSTITUTIONS CONNECTED WITH THE UNIVERSITY

GROUNDS AND BUILDINGS

THE CAMPUS

During the first decade of its existence, the College of New Jersey owned neither grounds nor buildings. The college exercises were held either in the house of the President or in convenient rooms elsewhere.

From the beginning, however, it had been the purpose of the Trustees to erect college edifices in a central part of the State and there locate the institution permanently. It was voted, May 15, 1751, therefore, that the necessary buildings should be erected at New Brunswick, provided the citizens of that place secured to the College the sum of one thousand pounds proclamation money, two hundred acres of woodland, and ten acres of cleared land. An offer of these terms was also made by the inhabitants of Princeton at the same meeting of the Trustees; and when, in September, 1752, it was learned that New Brunswick had not complied with the required terms, the Princeton offer was formally accepted. The particular tract of ground which became the site of Nassau Hall was given by Nathaniel Fitz-Randolph and the money guarantee was furnished by Messrs. John Stockton, Thomas Leonard, and John Horner, all wealthy residents of the village.

The University campus consists roughly of four tracts of land adjoining each other. The central portion, of about two hundred and four acres, forms a quadrangle bounded by Nassau Street on the north, Washington Road on the east, Lake Carnegie on the south, and the line of the Pennsylvania Railroad on the west.

The western portion, known as Springdale Farm, which was presented to the University in 1905, consists of two

hundred and thirty-one acres, lying between the Theological Seminary and Stony Brook.

The third portion, known as the Olden Farm, lying on the eastern side of Washington Road, was also presented to the University in 1905. It consists of ninety-three acres and includes Laughlin Field and the woodland lying between the line of the clubs on Prospect Avenue and the lake.

The fourth portion, which bears the name of the Butler Tract, was presented to the University in 1912. It lies next to a piece of land owned by the Lake Carnegie Association adjoining the Olden Farm, and contains upwards of ninety-three acres. The Butler Tract, together with the land of the Lake Carnegie Association, forms a continuous property of about four hundred and thirty acres, with a frontage of over a mile and a half on Lake Carnegie. The Trustees of the Lake Carnegie Association are required to be either alumni, Trustees, or members of the Faculty of Princeton University, and their property is held in the interest of the University.

All the University buildings are heated by steam and lighted by electricity, and in addition, with the exception of those in Reunion Hall, almost all studies are provided with open fireplaces. Every entry in each of the dormitories is provided with a lavatory, containing shower baths and other toilet facilities.

NASSAU HALL

Nassau Hall, the oldest and historically the most interesting building on college property, is picturesquely situated on the most elevated point of the front campus. At the time of its completion in the autumn of 1756, it was the largest academic building in the country. It was designed by Robert Smith, of Philadelphia, and was built of sandstone quarried in the neighborhood, and is now covered

with ivy. In its three stories and basement it formerly contained, exclusive of the prayer hall or chapel, which occupied the central portion of the building, sixty rooms, which included refectory, library, and recitation rooms. It was named Nassau Hall in honor of William of Nassau, Prince of Orange, William III of England. During the Revolution it served at different times as hospital and barracks for American and British troops; here from June to November, 1783, the Continental Congress sat, and here, on the twenty-sixth of August, Washington received the thanks of Congress for his conduct of the war of the Revolution.

Changes in the interior, consequent upon two disastrous fires in the last century, strikingly altered the arrangement of the building. The large central hall on the main floor has recently been remodeled and is now the Faculty Room of the University. At the present time the east wing contains the offices of the President, the Secretary, the Dean of the College, the Registrar, the Editor of the Official Publications of the University, and the Editor of the General Biographical Catalogue. The west wing contains the offices of the Dean of the Graduate School. On the third floor of the west wing are the laboratories of experimental psychology.

THE DEAN'S HOUSE

A house for the President of the College was erected in 1756, and until 1878, when Prospect was acquired by the Trustees, it continued to be the presidential residence. Since the creation of the office of Dean of the Faculty the house has been the official residence of the Dean.

STANHOPE HALL

In 1803 a stone building containing recitation rooms, a library, and an apartment for the two literary societies

of the College, the Cliosophic and the American Whig, was erected west of Nassau Hall. This building now contains the offices of the Treasurer, and the several offices of business administration.

PROSPECT

Prospect, the official residence of the President of Princeton University, is one of the oldest estates in the town, although it was not acquired by the University until 1878. The mansion, erected in 1849, is beautifully situated in extensive grounds, the main entrance to which opens on McCosh Walk.

DICKINSON HALL

This building, the gift of John C. Green, Esq., is used for the classroom work of the Academic Department. It was erected in 1870 from the designs of George B. Post, of New York, and is built of local stone trimmed with Connecticut limestone. It was named by Mr. Green as a memorial of Jonathan Dickinson, the first President of the College. In 1876 extensive alterations were made in the building and the exterior was much changed.

THE SCHOOL OF SCIENCE BUILDING

The School of Science Building was erected in 1873 and liberally equipped by John C. Green, Esq., a benefactor of the institution in many ways. It is devoted to the purposes of instruction in the Department of Civil Engineering.

On the first and second floors are located the civil engineering lecture and drawing rooms and the departmental library. In the graphics room is a set of duplicates of the more important Olivier models of ruled surfaces; here also are the Björling developable surface models, a number of the Muret set, and the Shröder mathematical models.

In the basement of the building are other recitation rooms and the machine shops of the School of Science, and connected with it is the dynamo building of the School of Electrical Engineering.

MARQUAND CHAPEL

CHARLES EGBERT BURNHAM, *Choirmaster.*

The chapel was the gift of the late Henry G. Marquand, Esq., of New York. The cornerstone was laid in June, 1881. The building is constructed of brownstone, and is cruciform in shape. The apse contains the organ and choir stalls. The gallery over the main entrance is used in part for visitors. The faculty stalls are along the sides of the building. The mural and window decorations are noteworthy. The St. Gaudens' heroic bronze high relief of the late President McCosh, erected by the class of 1879, faces the visitor on entering; by its side are the low relief memorial tablet to Professor Joseph Henry and the bronze tablet to Professor Arnold Guyot, set in a fragment of a Swiss glacial boulder presented by the authorities of his native city, Neuchatel. On the east wall of the south transept is the memorial tablet to the Rev. James Ormsbee Murray, first Dean of Princeton University, presented to the University in November, 1901. This tablet is of rose-colored Numidian marble, upon which is a medallion portrait in bas-relief of white marble, surrounded by an embossed wreath. On the north wall are three bronze memorial tablets; one in memory of the Faculty of the early sixties, erected by the class of 1863; one in memory of George Yardley Taylor '82 and Cortlandt van Renssalaer Hodge '93, medical missionaries who were killed at Paoting Fu, China, in 1900; and one erected by the class of 1903 in memory of Daniel Miner Rogers 1903, who was killed at Adana, Turkey, in 1909.

The south and north windows, by Lathrop, are in mem-

ory of Frederick A. Marquand, of the class of 1876, and William Earl Dodge, of the class of 1879. The west window, by Tiffany, is the gift of Mrs. T. Harrison Garrett, of Baltimore, in memory of her son, Horatio W. Garrett, of the class of 1895. The Sunday and daily morning services are held in the chapel.

ALEXANDER HALL

This building, the gift of Mrs. Charles B. Alexander, is used for Commencement and Class Day Exercises, public lectures, and other university gatherings of a general character. The auditorium is arranged with sloping floor and high gallery so that an audience of fifteen hundred may be comparatively near the speaker. The rostrum and President's chair are finished in colored marble and polychromatic mosaic. Behind the rostrum is a row of mosaic wall pictures, designed by J. A. Holzer, illustrative of the Homeric story. A large organ built by George Jardine and Son stands in one of the small galleries near the rostrum.

The building is constructed of granite and brownstone, and is romanesque in style. The front toward the south exhibits a large rose window beneath a gable roof, and between the central structure and two side towers are two fine round-arched openings which lead into a wide ambulatory encircling the building. From this ambulatory the rostrum and auditorium are reached. The two side towers and two smaller ones at the rear enclose staircases, which lead to the auditorium gallery. The building, which was designed by William A. Potter, has been decorated with sculpture, under the direction of the architect, by J. Massey Rhind. Beneath the rose window on the south front is a seated figure of Learning, on one side of which

are allegorical figures of Architecture, Sculpture, Painting, Poetry, Music, and Belles Lettres; on the other, of Oratory, Theology, Law, History, Philosophy, and Ethics. There are other sculptures about the rose window and in the niches around the ambulatory.

ISABELLA MC COSH INFIRMARY

JOHN MCDOWELL CARNOCHAN, M.D., *University Physician*
J. S. VANNEMAN, M.D., *Assistant University Physician*
HELEN GROSS, *Infirmarian*

The healthfulness of the town of Princeton is exceptionally great, a recent report of the State Board of Health showing that among towns in New Jersey having a population of 5,000 or more the mortality at Princeton is easily the lowest. Nevertheless, the illness incident to a university community, slight though it ordinarily is, demands special accommodations. The Isabella McCosh Infirmary, erected in 1892 by alumni and friends of the University, is the university hospital. It is equipped with all the most modern conveniences and necessaries of hospital construction, and comprises two separate buildings connected by a corridor. One of these is reserved as a ward for contagious diseases and for cases requiring special isolation.

As the infirmary is not fully endowed, each student pays an annual fee of $7 ($3.50 per term) which in all cases of ordinary illness procures for him, without charge, the necessary care, including board, nursing, laundry and physician's fees. When an illness extends beyond a week, board is charged after the first week at the rate which the student pays at his usual boarding place. While he is at the infirmary his board is rebated at his boarding place. Ordinary consultations are given daily by the University Physician at his office in the infirmary, free of charge. The infirmary

is under the constant and careful supervision of the University Sanitary Committee. The Infirmarian, who is an experienced trained nurse, and five assistant nurses are in residence, and a housekeeper and regular servant staff are maintained. Where special nursing is required an additional charge is made.

Proprietors of lodging houses where students live in town are required to report to the Secretary of Business Administration any cases of illness which occur in their houses. The University Physician is immediately notified and if in his judgment the student should be removed to the infirmary he orders the student to be removed, and so reports to the infirmary. The Infirmarian reports to the office of the Secretary of Business Administration when a student is admitted to or discharged from the infirmary. Similarly, if a student is found ill in a dormitory room his janitor reports the fact to the office of the Superintendent of Grounds and Buildings who in turn notifies the University Physician.*

THE FITZ RANDOLPH GATE-WAY

The Fitz-Randolph gate-way, the gift of the late Augustus VanWickle, was erected in 1905 as a memorial of his ancestor Nathaniel Fitz Randolph, the donor of the ground on which Nassau Hall stands.

This gate-way, designed by Messrs. McKim, Mead and White, forms the main entrance from Nassau Street to the campus and is directly in front of the steps of Old North. Facing Witherspoon Street there are four large limestone gate-posts decorated in front and back with the carvings of the arms of the University and surmounted by two eagles carved from the stone. The fence accompanying the gate-

* For Infirmary Regulations see p. 329.

way extends along Nassau Street from the Dean's house to the Library entrance.

MC COSH HALL

This collegiate Gothic building of Indiana limestone, erected in 1907 by friends in memory of the late President McCosh, composes one side of a contemplated quadrangle. It was designed by Raleigh C. Gildersleeve.

It is over 400 feet long and contains 18 lecture rooms and 26 rooms for preceptorial conferences. It contains one room seating 600 persons, one room seating 400, four rooms seating 75, four rooms seating 65, and six seating 50 each. The University Stock Room is located in the basement.

The building is fireproof and is heated, ventilated and lighted by the latest methods.

SUN DIAL

The sun dial, in the center of the court just north of McCosh Hall, was erected in 1907, the gift of the Right Honorable Sir William Mather, of London. It is an exact replica of the Turnbull sun dial at Corpus Christi College, Oxford.

DORMITORIES

WEST COLLEGE

West College, built in 1836, is the oldest dormitory building still standing. It forms the western side of the central quadrangle and contains accommodations for sixty-four students.

REUNION HALL

Reunion Hall, erected in 1870 on the site of Professor Joseph Henry's residence, was so named to commemorate the reunion of the Old and New Schools of the Presbyterian

Church. Prominent members of each party gave the funds by which it was built, and its cornerstone was laid by the officers of the General Assembly. It contains accommodations for sixty-five students.

WITHERSPOON HALL

Witherspoon Hall, named after Princeton's President of Revolutionary days, the signer of the Declaration of Independence, was built in 1877. It contains accommodations for eighty students. Built of gray stone with brownstone trimmings in the Victorian Gothic style, it towers above the neighboring buildings on the western section of the campus and forms the north side of the quadrangle enclosed by Edwards and Stafford Little Halls.

EDWARDS HALL

Edwards Hall, a brownstone Gothic building, is named after President Jonathan Edwards and contains accommodations for eighty-two students. It was erected in 1880.

ALBERT B. DOD HALL

Albert B. Dod Hall, the gift of the late Mrs. David Brown, of Princeton, was erected in 1890 in memory of her brother, Professor Albert Baldwin Dod, of the class of 1822. It was designed by John Lyman Faxon. It is a long, massive structure in the Italian style, of granite with limestone trimmings, while the columns flanking the entrance are of Georgia marble. The carving over the main entrance is Byzantine. The building has accommodations for seventy-seven students.

DAVID BROWN HALL

David Brown Hall, another gift from Mrs. Brown, was erected in 1891 in memory of her husband. This building was also designed by John Lyman Faxon. It is modeled

after a Florentine Renaissance palace, and forms a hollow square of four stories enclosing a courtyard 67 by 44 feet. The first two stories are of granite, the two upper stories of Pompeian brick. A granite seat runs the length of the front façade. This dormitory, which accommodates eighty-six students, is situated at the edge of Prospect gardens and overlooks the long slope towards the lake and the landscape beyond.

BLAIR HALL

Blair Hall, a Sesquicentennial gift of the late Hon. John Insley Blair, and built from the designs of Messrs. Cope and Stewardson, was the first representative of the style of architecture which has since been adopted for the later Princeton buildings. Blair Hall is built of white Germantown stone, in the English collegiate Gothic style, and accommodates one hundred and fifteen students. The square massive central tower is pierced by an archway which, with the terraces and flight of steps, forms the entrance to the campus from the southwest. An addition, with a gateway tower, has been erected by the late De Witt Clinton Blair, of the class of 1856.

LITTLE HALL

Adjoining the southern end of Blair Hall and following out that building's line and style on a slightly lower level of ground is Stafford Little Hall, a dormitory accommodating one hundred and ten students, the gift of the late Henry Stafford Little, of the class of 1844. It was erected partly in 1899 and partly in 1902 and forms, with Blair Hall at one end and the Gymnasium at the other, a series of architecturally harmonious buildings, marking the western confines of the central campus. This building was also designed by Messrs. Cope and Stewardson.

THE PYNE BUILDINGS

The Upper and Lower Pyne Buildings are located on Nassau Street, opposite the University campus. These buildings were erected in 1896 by M. Taylor Pyne, Esq., of the class of 1877, and are in the half-timbered Chester style. They were designed by Raleigh C. Gildersleeve. Upper Pyne accommodates nineteen and Lower Pyne eighteen students.

SEVENTY-NINE HALL

Seventy-nine Hall, a gift of the class of 1879, is a development of the collegiate Gothic, so extensively used at Oxford and Cambridge, and in the recent buildings at Princeton, and was designed by Benjamin W. Morris.

It is two stories in height, with a basement. The walls are of red brick, the trimmings of Indiana limestone. Toward the middle of the building and directly facing Prospect Avenue is a tower which forms the principal feature of an asymmetric composition. The Hall accommodates forty-eight students.

PATTON HALL

Patton Hall, a dormitory furnishing accommodations for one hundred and three men, is the gift of the ten classes from 1892 to 1901, inclusive. This building, erected in 1906 from the plans of Benjamin W. Morris, is an addition to the graceful line of Gothic architecture making the western confines of the central campus and is built of the same material and conforms in style to Blair and Little Halls.

CAMPBELL HALL

This dormitory is the gift of the class of 1877. The style is English collegiate Gothic, similar in type to that of Blair Hall, the materials being the same. It provides

accommodations for sixty men. It was erected from the designs of Messrs. Cram, Goodhue and Ferguson.

HOLDER HALL AND ITS PROPOSED ADDITIONS

Plans have been made for an imposing group of buildings for use as dormitories and dining halls, to occupy the space at the southeast corner of University Place and Nassau Street. An excellent model of these buildings is on exhibition in the University Library. The University Dining Halls are now in process of erection.

A considerable part of this group, forming four sides of a large courtyard, together with the great tower on Nassau Street, have been built through the generosity of Mrs. Russell Sage, from designs of Messrs. Day Brothers & Klauder. To this group of buildings Mrs. Sage has given the name of Holder Hall.

The body of the walls is of Princeton stone, with doorways, windows, cornices, etc., of Indiana limestone. The roof is of very heavy graduated stone slates and the windows have metal casements with leaded glass. The floors are constructed of reinforced concrete and the partitions of terra cotta. There are three floors available for the use of students, of whom one hundred and forty-nine can be accommodated.

HAMILTON HALL

This dormitory, built in 1911 from designs of Messrs. Day Brothers and Klauder, fronts on University Place and adjoins Holder Hall on the southwest. It accommodates forty-one students. It has been erected chiefly by the generosity of the classes of 1884 and 1885. It is of the same style and material as Holder Hall and forms the southern side of a quadrangle which will occupy the corner of the campus at the junction of University Place and Nassau Street.

CUYLER HALL

This dormitory joins Patton Hall and was built in 1912 from designs of Messrs. Day Brothers and Klauder. It is named in memory of Cornelius C. Cuyler of the class of '79. Five of the six entries are the gifts of the classes of 1881, 1882, and 1891, and of Mr. William E. Guy '65 and Mr. J. O. H. Pitney '81. The large entry at the southeast corner was built with funds contributed by a large number of alumni. It is of the same style and material as Holder and Hamilton Halls and provides rooms for sixty-eight students.

GRADUATE COLLEGE BUILDINGS

The buildings and endowments of the Graduate College are mentioned on page 234.

The site of this group of buildings is on the crest of a slope in the western portion of the University Campus, two-thirds of a mile distant from Nassau Hall and on that portion of the revolutionary battlefield of Princeton where the final engagement of the battle occurred. The surrounding grounds have been laid out and planted under the direction of Mrs. Beatrix Farrand.

The body stone of all the buildings is the native bluish argillite with trim of Indiana limestone. The stone floors are of Vermont slate or terrazzo. Gray Germantown stone is used for the quoins of the Cleveland Tower, and buff Kentucky sandstone for the interior of Procter Hall. The woodwork and furniture is entirely in oak, and the window casements are of stone with window frames of metal. The roof is grayish green Vermont slate.

The buildings have been designed and constructed in the perpendicular Gothic style by the architects Cram, Goodhue and Ferguson of Boston, in accordance with the plan of Mr. Ralph Adams Cram. The group is formed around a central quadrangle, Thomson College, which measures about two hundred and fifty by two hundred feet, enclosing a court and lawn of about one hundred and seventy by one hundred and thirty feet, and containing suites for over one hundred students, besides the kitchen, service quarters, breakfast rooms, common room and reading room. The buildings are fireproof and are heated and lighted throughout by steam and electricity. All students' rooms are completely fur-

nished, including window-curtains, bedding and bed linen, but not toilet linen. A single suite usually includes a study and a bedroom, with share of a toilet room. A double suite includes a study and two bedrooms, with share of toilet room. In some cases a single suite with exceptionally large study and bedroom is used as a double suite by double furnishing of the study and bedroom. Every study is provided with an electric reading lamp and nearly all the studies have open fireplaces.

Adjoining the main college gate at the southeastern corner of the quadrangle is the Cleveland Tower, forty feet square and one hundred and seventy-three feet high, containing in its base the vaulted memorial chamber of Indiana limestone, twenty-eight feet square and forty-eight feet high. At the eastern side of this lofty room is built a stone base backed and surmounted by a Gothic arch, where it is hoped a bronze statue of President Cleveland may be placed. The following inscription is carved on the arch in severely plain capitals:

IN REMEMBRANCE OF
GROVER CLEVELAND
PRESIDENT OF THE UNITED STATES
PUBLIC OFFICE IS A PUBLIC TRUST

Above the memorial chamber is a large room which is reserved for relics of American history, and above this room is the open bell-chamber. A turret stair leads from the base to the top of the tower.

The southwestern corner of the quadrangle is completed by the Pyne Tower which contains the vestibule hall connecting the common room and Procter Hall, the suite for the Master in Residence, the guest rooms and, above this, a large suite in the fourth story. The vestibule hall, constructed entirely of Indiana limestone, has slender lierne vaulting.

There is also a large tracery window and a fireplace with the motto: *In meditatione mea exardescet ignis.*

Projecting westward from the Pyne Tower is Procter Hall, the dining hall and chief public room of the Graduate College. The interior measures thirty-six by one hundred and eight feet. The floor is of Vermont slate, and the interior walls of buff Kentucky sandstone. The panelling and arching roof are in oak. A visitor's gallery with oak screen stands at the eastern end of the hall. At the western end there is a high oriel window on the south side and a large fireplace facing it on the north. Back of the high table is the brilliant memorial window in stained glass, designed and executed in the manner of the fourteenth century by Mr. and Mrs. William Willet. The window symbolizes Christian learning. In the lower part is a seated figure of the child Christ, teaching the assembled Doctors in the Temple. Below this is carved the inscription: *Nec vocemini magistri, quia magister vester unus est Christus.* The upper portion contains richly draped figures of the Seven Liberal Arts, standing under an evening sky which deepens in the tracery above into the hues of a night sky with stars. Beneath this scene the following inscription is burnt in the glass. *Qui ad iustitiam erudiunt multos quasi stellae in perpetuas aeternitates.* The portraits hung in Procter Hall have been given by Mr. Thomas Shields Clarke of the class of 1882.

Wyman House, the residence of the Dean of the Graduate School, stands adjacent to Procter Hall on the southwest.

LABORATORIES AND MUSEUMS

HALSTED OBSERVATORY

HENRY NORRIS RUSSELL, PH.D., *Director of the Observatory*

This observatory is appropriated to scientific work, chiefly in the department of astronomical physics. The building, the gift of the late General N. Norris Halsted, is of stone, with a dome thirty-nine feet in diameter, the power for moving it and its sliding shutter being furnished by an electric motor. In it is mounted the great equatorial, of twenty-three inches aperture and thirty feet focal length, made by the Clarks, and provided with all the usual accessories, micrometric, spectroscopic, and photometric. The building also contains a clock and a chronograph, and is in electric connection with the Observatory of Instruction.

OBSERVATORY OF INSTRUCTION

This observatory is devoted entirely to the use of students and is fully equipped for its purpose. It possesses an equatorial (by Clark) of 9½ inches aperture, with a full complement of spectroscopic and other accessories; a 5-inch camera (by Brashear), the gift of John Neilson, Esq.; and a measuring machine for astronomical photographs. It has also a 9-inch reflector, a 4-inch meridian circle, three transit instruments with 3-inch telescopes, two of them arranged for use as zenith telescopes; a chronograph, two standard clocks and five subsidiary clocks, one in each observing room. There are also a number of sextants, two chronometers, and all the other auxiliary apparatus required for carrying out the work in the courses on practical astronomy, to accommodate which a room for lectures and recitations has been added.

PSYCHOLOGICAL LABORATORY

The laoratory for experimental psychology, established in 1893, at present occupies the entire third floor of the west wing of Nassau Hall. It comprises a lecture room, reading room, preceptorial rooms, dark-room, work-shop, and several rooms for graduate and undergraduate research work. The equipment consists primarily of the standard pieces of apparatus for demonstrations and research, together with illustrative models and charts, and is extended to meet the requirements of graduate research in any special direction. A select library of reference books and bound periodicals belonging to the department is kept in the reading room. A private psychological library of several hundred volumes, with current numbers of leading psychological, philosophical, and neurological journals, is also kept at the laboratory and is available to graduate students for consultation. The *Psychological Review* has been closely identified with the department at Princeton since 1894; one room in the laboratory is devoted to editorial and publishing purposes.

THE PALMER PHYSICAL LABORATORY

The Palmer Physical Laboratory, the gift of the late S. S. Palmer, Esq., was completed in 1908 and is devoted to the uses of the Departments of Physics and Electrical Engineering. It was designed by H. J. Hardenbergh.

It is a two-story and basement building of brick and Indiana limestone and is academic Gothic in style. It is constructed with very heavy walls, and with floors of steel, tiling and concrete, is thoroughly fireproof and possesses the greatest stability. It is built on a southern slope around three sides of an open court, thus assuring an abundance of light and air for the basement as well as for the two upper stories.

The building is heated by steam, with thermostatic control, is lighted by electricity and is arranged for the artificial ventilation of any, or all, of its parts.

It contains two large lecture rooms, one for 325 persons and the other for 200, three smaller lecture rooms for sixty-five persons each, seven recitation rooms, each for twenty-five persons, four large laboratories and a number of smaller ones, rooms for the professors, for the library, the museum, and for research students. One large and two small machine shops are provided, rooms are set aside and equipped for the storage batteries, electrical charging machinery, and switchboards; and a chemical laboratory, a Roentgen ray room, constant temperature rooms and a grating room have been especially constructed, in addition to store rooms, balance rooms and photographic and photometric dark rooms. The three floors give a combined area of approximately two acres for the work of instruction and research.

The equipment includes four storage batteries of sixty cells each, the necessary electrical charging machinery, a very extensive and flexible system of wiring for both direct and alternating currents, a refrigerating plant, a liquid air and hydrogen plant, a vacuum and pressure system leading to all parts of the building, a large machine shop with a full outfit of hand and machine tools, and an electric elevator running from basement to attic. A large equipment of apparatus is provided for lecture purposes, for laboratory work and for research.

Through the generosity of David B. Jones, Esq., of the class of 1876, and of Thomas D. Jones, Esq., of the class of 1876, a fund of $200,000 has been given for endowment, the income of which is to be used by the two departments occupying the laboratory, for the purchase of supplies, for the construction of apparatus, and for the satisfaction of the general scientific needs of the two departments.

BUILDINGS AND APPARATUS OF THE SCHOOL OF ELECTRICAL ENGINEERING

Ample accommodations for recitations, lectures and experimental work are provided in the Palmer Physical Laboratory. All of the equipment of that building and all of the apparatus of the Department of Physics are available for the use of the School of Electrical Engineering. The laboratory contains a full equipment of galvanometers, current balancers, direct and alternating current ammeters, volt-meters and watt-meters; frequency and power factor meters, resistances, bridges and potentiometers; standards of resistance, inductance and capacity; Dudell and General Electric oscillographs, a Fleming cynometer, etc.

A room has been especially equipped for the comparison with standards, of the various instruments required in precise electrical measurements.

The dynamo building contains a complete equipment of electrical machinery, and is set apart entirely for experimental work and machine testing. The motive power for the machinery is furnished by a sixty-horse-power boiler and a Ball engine. The dynamo plant consists of a Westinghouse alternating current generator with a full set of transformers, a Westinghouse direct current generator, two Westinghouse rotary converters, Mather, Edison, Brush arc, Eickemeyer and Gramme generators, a machine constructed in the shop of the School of Science, General Electric, Westinghouse, Brush, Eickemeyer, and other motors. With these machines is a complete outfit of accessories, and a large rheostat of German silver used in testing. Arc and incandescent lamps are so arranged that the various systems of distribution may be studied.

The University Power Plant, which is used for lighting and heating the university buildings, contains six 250 horse-power boilers, for power and steam heating; two 200 k.w.

and one 100 k.w. direct-connected alternating current generators and one 300 k.w. alternating current generator, direct driven by a Curtis steam turbine; one motor-driven exciter and one steam turbine-driven exciter; the station switch-board and a special experimental switch-board. The entire equipment of generators, transformers, motors, etc., is available for the use of the School, for purposes of experimental study in which the quantities to be measured are of the order of those met with in commercial applications.

CHEMICAL LABORATORIES

JOHN STOUT VAN NEST, PH.D., *Curator of Chemical Laboratories.*

Most of the work of the Department of Chemistry is carried on in the Chemical Laboratory, which was erected and equipped in the year 1891 by the John C. Green estate. It is of fireproof construction, well lighted, and ventilated by electric fans. The main portion is 108 feet long and 58 feet wide, with a wing 47 feet long and 42 feet wide.

The top floor of the building is mainly devoted to the laboratories for general inorganic chemistry and for qualitative analysis, in which each student has a separate desk, provided with water, gas, suction for filtering, and sink. A room specially equipped for gas analysis, a reading room, a private laboratory, and two small storerooms are also on this floor.

On the second floor are two lecture halls, with a large preparation and apparatus room adjoining them; a well equipped laboratory for quantitative analysis with adjacent balance room and storeroom; and three private laboratories.

The entire first floor of the wing of the building is devoted to physical chemistry. In the main portion are located a laboratory for advanced work and research in general chemistry, a private laboratory and the principal stock and

store rooms. A laboratory for special work in advanced inorganic chemistry is located in the basement of the School of Science.

The laboratories for organic chemistry occupy a separate building, the Class of 1877 Laboratory, where excellent equipment is provided for elementary, advanced, and research work.

GUYOT HALL

The Natural Science Departments are housed in Guyot Hall, which was erected in 1909 from the designs of Messrs. Parrish and Schroeder.

This building is situated at the southeast corner of the campus on the southerly slope below the Palmer Physical Laboratory, and beyond it fields, woods and brooks extend down to Lake Carnegie, thus affording unrivalled opportunities for biological gardens and vivaria. The inside dimensions of the building are 288 feet long and 56 feet wide, with a south extension 63 feet long by 35 feet wide. Its central section has a basement and four stories, and the ends and extension have three and two stories respectively. With a cubical content of about 1,250,000 cubic feet it has a total serviceable floor space of about 85,146 square feet.

Architecturally it is a successful application of the English Gothic style to the strict requirements of modern laboratory construction. The chief material used is brick of variable light red tone with Indiana limestone trimmings, and the construction is fireproof, being of steel, reinforced concrete, and plaster block.

The approved features of modern laboratories of this class have been adopted; simplicity of design, stability, fireproofing, maximum of window lighting, use of sound-proof though easily removable partitions, with generous provision of electric illumination and power, gas, and water supply.

Two freight elevators, one electric, the other hand power, run from cellar to top floor. The general artificial illumination is provided by the alternating current system, and a 30 k.w. motor-generator set furnishes direct current for the projection and photo-illumination apparatus. Abundant gas supply is at hand for secondary illumination and heating on laboratory tables. Natural ventilation is relied on to a large extent, almost entirely so in the west end of the building. A ventilating plant provides tempered forced draft and exhaust for the corridors, museum, lecture room, reading room, and certain laboratories where noxious fumes and odors may be generated. Independent minor exhaust systems care for the proper circulation in the photographic rooms.

The Departments of Biology and Geology occupy approximately equal portions of the building, Biology having the eastern and Geology the western end, and certain rooms are used in common; i.e., the museum room, the large lecture room, the general library and reading room. The museum occupies the entire first story, having a height of 18 feet, and, with its gallery along the south side of the central section, affords about 19,300 square feet of floor space. The lecture room, central in the basement, with 210 seats, has brilliant natural and artificial illumination, and is provided with all appurtenances needed for conducting lecture courses and meetings of scientific societies. The library, centrally located on the second floor, has a reading room space of 25 x 25 feet and lateral stacks holding the working libraries of the biological and geological sciences, with capacity for about ten thousand volumes.

The laboratories are arranged in ten separate suites, each suite as a rule accommodating a distinct subject, and five suites are in each department. In addition there are rooms

for graduate students and for investigators, seminary rooms, a club room for students of the Department of Geology, machine shops, curatorial, preparation, and store rooms, and finely equipped quarters for photographic work. Special rooms are designed for seismographical and meteorological stations. Excluding several rooms used for janitorial and other purposes, 103 rooms are devoted to the work of the scientific departments.

THE NATURAL SCIENCE MUSEUM

WILLIAM LIBBEY, D.Sc., *Director of the E. M. Museum of Geology and Archaeology*
WALTER MEAD RANKIN, PH.D., *Curator of the Herbarium*
ALEXANDER HAMILTON PHILLIPS, D.Sc., *Curator of Mineralogy*
GILBERT VAN INGEN, *Curator of Invertebrate Palaeontology*
WILLIAM JOHN SINCLAIR, PH.D., *Curator of Vertebrate Palaeontology and of Prehistoric Archaeology*
CHARLES FREDERICK SILVESTER, *Curator of the Zoological Museum*
BENJAMIN FRANKLIN HOWELL, JR., B.S., *Assistant Curator of Geology*

The Natural Science Museum, occupying the first floor of Guyot Hall, with a floor area of about 19,300 square feet, contains the collection formerly included in the E. M. Museum of Geology and Archaeology, the storerooms of the Department of Geology, the Museum of Biology, the Class of 1877 Morphological Museum, and the Mineralogical Museum of the John C. Green School of Science.

The Zoological Collections are especially rich in osteological and ornithological material. The former includes a large number of mounted and disarticulated skeletons of fishes, reptiles, birds and mammals. The collections of mounted and unmounted bird skins are especially large, including some sixteen thousand individuals, representing very completely the avifauna of New Jersey, and in part that of North America, Europe, Indo-Asia, Australia, and South

America. These collections are supplemented by some four thousand sets of eggs, most of them in nests.

The Collections of Invertebrata include a complete series of specimens prepared by the zoological station at Naples, as well as a large series of corals and shells of molluscs.

The Morphological Museum contains about twenty-six hundred preparations, illustrating the comparative anatomy of vertebrates. This collection, which consists of dissections and corrosions, is being increased constantly at the rate of about three hundred preparations a year, all of which are prepared in the laboratory by the curator and his assistants.

The Histological Collection is located on the second floor of the building and consists of some thirty thousand mounted microscopical specimens illustrating the various forms of tissues of many different animals; some five thousand specimens being stored in paraffin blocks.

The Botanical Collections are arranged on the third floor and include, besides certain illustrative specimens, models and charts, a herbarium of mounted plants, classified according to Engler and Prantl's *Pflanzenfamilien*. The herbarium includes a local collection, representing the New Jersey flora, of four thousand sheets; some forty thousand sheets of plants from different sections of the United States, from South America, Europe, and Asia, and ten thousand sheets of mosses, recently acquired from Dr. Per Dusén of Sweden.

The Geological Museum has exhibits arranged in three general groups to show the structure of the earth, the history of the earth, and the ancient life of the earth.

The central portion of the west hall is devoted to exhibits of the structural materials that make up the crust of the earth, the minerals and rocks, and of specimens that show tectonic features of the crust, and the modes of occurrence of economic minerals and ores.

At the end of the west hall is a synoptical collection illustrating the geology of the vicinity of Princeton.

The cases around the sides of the west hall are arranged on the enclosed-alcove plan, forming a continuous series of small rooms. Each room is devoted to a period of geological time, and the contained exhibit consists of rocks, fossils, maps, and labels illustrating and describing the history of the period.

The west half of the middle hall contains the exhibits of the ancient vertebrate life of the earth. Several fine fossil skeletons of tertiary mammals are mounted in natural positions.

The archaeological and ethnological exhibits, occupying the entire gallery, portray the culture of various races of Palaeolithic, Neolithic, and savage mankind.

Circulars describing the exhibits are issued from time to time. Two have appeared: The Archaeological-Ethnological Collections, and the Princeton Local Geology Collection.

The teaching collections, placed in the laboratories, are arranged in series that illustrate the various courses of instruction. In addition there are reserve collections available for advanced study and research, and collections that have been accumulated in the course of investigations prosecuted by the officers of the department.

The teaching and study collections are being rapidly augmented through the field trips conducted as part of the regular work of the Department of Geology, and through the summer field work prosecuted in various regions by the officers and graduate students.

THE GEOLOGICAL LABORATORIES

The laboratories of the geological sciences occupy the western half of Guyot Hall, and have a floor area of about 19,700 square feet, of which about 13,800 square feet are

devoted to the various phases of the instruction work and the remainder to preparation and curatorial purposes. The museum, general lecture room, and library are shared in common with the Department of Biology. The geological library has about six thousand, five hundred volumes.

Distinct suites of apartments are devoted to the following lines of study: Structural Geology, Petrology and Economic Geology, Mineralogy, Physical Geography, Stratigraphy and Invertebrate Palaeontology, and Vertebrate Palaeontology. There are in addition a large graduate laboratory and several small rooms for carrying on special investigations. A suite of rooms is designed for the illustration work of the Department of Geology, comprising an artist's studio, photographic studio for lantern slide and photomicrography as well as for ordinary camera work, a room for blue-printing, and four dark rooms, of which three may be assigned to graduate students. Seismographic and meterological stations are designed, but not yet equipped.

The club room for the departmental students is located on the second floor, and is provided with literature pertaining to the undergraduate courses in geology, and also with standard works in the allied sciences.

Further details regarding the resources and collections of the Department of Geology may be obtained by consulting the Announcement of the Department of Geology, which may be secured from the office of the Secretary of the University.

THE BIOLOGICAL LABORATORIES

The Biological Laboratories are located in the east half of Guyot Hall and comprise, in addition to the museums, the library, laboratories, research rooms and seminary rooms of the Departments of Zoology, Physiology, and Botany.

The Biological Library consists of about thirteen thousand volumes. It contains sets of the principal biological periodicals, as well as standard reference books and monographs. Through the generosity of Charles W. McAlpin, Esq., of the class of 1888, several hundred volumes are added to it each year.

The Zoological, Anatomical, and Histological Laboratories include five classrooms, equipped as laboratory-lecture rooms, seven private research rooms, two preparation rooms, a chemical room, two photographic rooms, an artist's room and six storerooms.

The Physiological Laboratory comprises one large laboratory-lecture room, two smaller laboratories, two private research rooms, a photographic room and a shop; it closely adjoins the animal rooms in the sub-basement and vivarium.

The Botanical Laboratory includes two laboratory-lecture rooms, four private rooms and the herbarium room. A glass house and vivarium afford at all seasons a considerable variety of land, fresh-water, and marine plants for study. A greenhouse 22 x 100 feet, with headhouse 15 x 24 feet, has been erected and fully equipped for experimental work in genetics, and about fourteen acres of level land to the south of Guyot Hall have been set apart and specially prepared for the growing of pedigree-cultures.

VIVARIA

The study of living plants and animals is a most important part of Biology, and unusual facilities are here offered for such study. In addition to the natural advantages of the situation, afforded by the presence in the immediate vicinity of the laboratory, of fields, woods, brooks, Lake Carnegie and the canal, especial preparations have been made for keeping under experimental and observational conditions a considerable variety of animals and plants. The vivarium

is a separate building with glass roof and large concrete aquaria; the latter having an aggregate area of nearly four hundred square feet, one half of which is devoted to sea-water and the other half to fresh-water. In addition there are rooms with suitable cages for keeping insects, amphibians, reptiles, birds and mammals; also private research rooms, photographic rooms and pump rooms. Adjoining the building are flying-cages for birds, runways for mammals, and a greenhouse for plants. Near the vivarium a biological pond has been formed by damming up a brook, and various cages and retreats will be established as they are needed along the brook and in the woods where many animals may be kept and studied under natural conditions.

CIVIL ENGINEERING LABORATORY AND APPARATUS

Through the generosity of the trustees of the John C. Green estate a separate building has been provided and equipped with suitable apparatus for training the students in civil engineering in the laboratory work of engineers. The building covers an area of about 7000 square feet and contains the cement-testing, the testing of materials, the hydraulic and the heat engine laboratories.

The cement room contains the usual apparatus of a standard cement-testing laboratory.

The testing of materials laboratory contains four electrically driven direct tension and compression machines, the largest having a capacity of 200,000 pounds with ten-foot extension head and twenty-foot extension arms for cross bending tests; a torsion machine; bending machines of 10,000 and 100,000 pounds capacity respectively, the latter capable of taking wide beams such as slabs, tee beams, etc; extensometers, deflectometers, strain gauges, and other apparatus for precise measurements; a portable crane; an engine driven concrete mixer; standard steel forms for

reinforced concrete beams and columns; and the other accessories for efficient work.

The hydraulic room is very complete in provisions for the control of pressures and volumes, and is unique in its use of large quantities of water in a very economic manner.

The heat engine equipment contains a steam boiler of about seventy horse power to furnish power and the means of conducting evaporation tests; a steam engine of fifty horse power provided with a dynamometer, and other apparatus for testing power and efficiency; and an Otto gas engine of about six horse power.

The work of the several laboratories is intended to supplement the corresponding theoretical studies, to make tests of structural forms and materials; to conduct trials of steam, gas, and other motors; to deduce from actual experiment laws and coefficients of flow through various kinds of orifices, weirs, and conduits; and to make reliable tests of cement, mortars and concretes.

The instruments provided for the course in geodesy represent the work of several instrument makers of high repute. They include a 12-inch geodetic transit; a large plane-table with telescopic alidade and a telemeter; engineers' mining and solar transits; wye and dumpy levels; surveyors' compasses; mercurial and aneroid barometers; sextants; heliotropes; numerous forms of standard linear measures; and a large assortment of reconnoitering instruments.

THE MUSEUM OF HISTORIC ART

ALLAN MARQUAND, PH.D., L.H.D., *Director of the Museum of Historic Art.*

The upper story of the museum contains a library of books and photographs for classical and mediaeval archaeology, collections illustrating the history and processes of the graphic arts, collections of Greek and Roman coins

and gems, specimens of Greek and Roman marble, a collection of bronze medals and casts of ivories from the Roman to the Gothic period, a series of casts from the Arch of Trajan at Beneventum, and a small collection of paintings. One room is devoted to exhibiting the results of the Princeton Expeditions to Syria. Here, besides casts of sculpture and inscriptions, are many examples of Syrian workmanship in stone, terra-cotta, glass, bronze, and gold.

In the central story the Trumbull-Prime collection has been rearranged and new cases have been added. The purpose of this collection is to illustrate the history of pottery and porcelain. Egypt is represented by sepulchral figurines, beads, and amulets; Phoenicia by numerous Cypriote vases; Greece, Etruria, and Southern Italy by Corinthian aryballoi and fine examples of larger vases of black-figured and red-figured types. The Orient is further illustrated by specimens from Persia, China, and Japan; America by Mexican and Peruvian pottery. The collection is richest in examples of European wares, to which England, France, Germany, and Holland are the chief contributors, but Italy, Russia, Sweden, and Switzerland are also represented. The small room of this story contains the Livingston collection of pottery. This collection is noteworthy for the illustrative material it furnishes for the early history of our country.

The staircase and basement are occupied by a carefully selected collection of casts of ancient and mediaeval sculpture, presented by the class of 1881 at its decennial. This collection was formed to illustrate the history of ancient sculpture in Egypt, Babylon and Assyria, Persia, Greece and Rome, and of mediaeval sculpture in Italy, France, and Germany. There has been recently added from the same fund a collection of casts of Renaissance sculpture.

The museum is open to visitors from 9 A. M. to 5 P. M., and from 8 to 10 P. M.

LITERARY SOCIETIES

The Cliosophic and American Whig Societies were founded prior to the Revolution. They occupy twin marble buildings on the campus, containing auditoriums, reading and lounging rooms, and libraries. They are managed by undergraduates, but include in their membership most of the graduates and officers of the University. They follow the usual course of literary societies, awarding numerous prizes—some of exceptional value—for orations, essays, and debates, and conferring diplomas on those who complete the prescribed courses. Older graduates of Princeton have considered the training of the Halls one of the most valuable parts of their college experience. A freshman course in public speaking and debate under expert direction and official sanction, open only to Hall members, is now conducted in the Halls under the direction of the Department of English, as an alternate to the regular freshman course in English literature. This course is specially planned for students looking forward to public careers. A vigorous competition for University honors has always prevailed between the two societies and it is from their representatives that the intercollegiate debating teams are selected which meet representatives from Yale and Harvard each year in a triangular debate. The Halls also provide their members with the advantages of social clubs, which are especially appreciated by the freshmen and sophomores, and by the juniors and seniors who are not connected with the upperclass clubs. Probably half the student body are members of one or the other of the Halls. Until recently these societies were secret, but they now have an agreement whereby members of each society enjoy free access to the building of the other.

ATHLETIC GROUNDS AND BUILDINGS

UNIVERSITY FIELD

This field, which prior to the erection of the Palmer Memorial Stadium was the scene of all the principal university athletic contests, is now used chiefly for baseball. The new entrance gateway at the front of William Street is the gift of Mr. Cyrus H. McCormick, of the class of 1879. The wall and gateway on Prospect Avenue, built in 1911 from designs by Messrs. McKim, Mead and White, were given by the late Ferris S. Thompson, of the class of 1888. In connection with the field there are the following buildings: (1) The University athletic clubhouse, the gift of Professor Henry F. Osborn, class of 1877, containing training quarters, dining-room, parlor, bedrooms, baths, etc.; (2) the cage for indoor winter practice, a well-lighted brick structure with a clear floor space of 60 x 140 feet; (3) the field house, containing dressing-rooms, lockers, and baths for the University and visiting teams; (4) the grand stand, the gift of Mrs. John J. McCook, of New York, the clock in the peak of the roof being the gift of the glee club of 1890; (5) the open stands, built by alumni subscriptions.

THE BROKAW MEMORIAL

The Brokaw Memorial Gateway and Building was erected in 1892 by I. V. Brokaw, Esq., of New York, in memory of his son, Frederick Brokaw of the class of 1892, who lost his life at Elberon, N. J., in 1891 while attempting to rescue a drowning girl. A wing of this building contains a concrete swimming pool, lined with white tile, 100 feet long by 25 feet wide, which is architecturally combined with the Gymnasium. The Brokaw Building contains also three handball courts and dressing rooms for the swimming squad and for visiting teams.

THE GYMNASIUM

The gymnasium, erected by the alumni, is situated toward the southwest end of the campus. In style of architecture this building conforms to the collegiate Gothic of Blair, Little and Patton Halls, and the material used is the same Germantown stone. These four buildings, harmonizing in style and general effect, form an almost unbroken western boundary to the central campus, nearly half a mile in length.

The façade of the gymnasium comprises two full stories and a tower. The main entrance opens into a trophy hall 50 feet wide by 130 feet long, paneled in English oak and with an exposed-beam roof. This hall affords space for a large number of athletic trophies, offices for the members of the Department of Hygiene and Physical Education, a physical examination room, and rooms for fencing, boxing and wrestling. The hall is surrounded by a gallery which is used for trophies and banners.

The gymnasium proper is entered through the trophy hall. It is 166 feet long and 101 feet wide, and is almost as high as the two-story portion of the building. Its roof is supported only by the side walls, so that the interior is unobstructed. About its walls is an elevated running-track, twelve laps to the mile. It contains, besides the main hall which is equipped with apparatus for physical training and competitive games, locker and dressing rooms, lavatories, hot and cold shower baths, four handball courts, and a rowing room equipped with sixteen machines for crew practice. The gymnasium is open daily throughout the university year for work by classes, teams and individuals.

FIELDS AND COURTS

The Brokaw Field was provided in 1896 by the alumni for the benefit of undergraduates who are not members of

university teams. It contains three baseball diamonds and a 120-yard straightaway running track. Goldie Field was constructed in 1911 closely adjoining Brokaw Field and is large enough for a baseball diamond and three soccer fields. There are twenty-eight tennis courts on terraces bordering these two fields.

CLASS OF 1886 MEMORIAL BUILDING

This building, presented to the Univeristy by the class of 1886, is located on the Princeton golf course. The building contains ample provision in the way of bath and locker rooms, reception rooms, etc., designed for the use of members of the Princeton Golf Club, with dormitory and kitchen facilities, for the use of the members of the class of 1886 during their reunions.

THE PRINCETON GOLF CLUB

Students of the University are eligible to membership in the Princeton Golf Club upon payment of the annual dues of $20. The year extends from September to September. The eighteen-hole golf course covers 225 acres and it situated on university property.

CLASS OF 1887 BOAT HOUSE

This building, erected by the class of 1887, was completed in 1913. It is located on the shore of Lake Carnegie, to the west of Washington Road. The style of architecture is Gothic, and the material used is reinforced concrete. It was built from the designs of Pennington Satterthwaite, of the class of 1893. The dimensions of the building are 170 by 100 feet. The first floor contains accommodations for thirty-two shells and a workshop. On the second floor are two locker rooms, a large club room, and an office for the rowing coach.

THE PALMER MEMORIAL STADIUM

The Palmer Memorial Stadium is the gift of Edgar Palmer, Esq., of the class of 1903, and was erected by him in 1914 as a memorial to his father, the late S. S. Palmer, a trustee and generous benefactor of the University, the donor of the Palmer Physical Laboratory. The Stadium is erected upon the tract known as the College Farm, which is leased by the University to the Athletic Association. It is a U-shaped structure with the open end towards the south, permitting a view of the woods along Lake Carnegie, with glimpses of the lake in the distance. It is built of reinforced concrete throughout and will seat a few more than forty-one thousand spectators. Entrance to the Stadium is effected from a covered concourse which runs completely around the Stadium, under the structure itself. From this concourse inclined planes, or ramps, lead to the central line of the area reserved for seats. Aisles lead up and down from the outer ends of these ramps, by means of which spectators pass at once to their seats. A broad promenade is erected back of the last row of seats and runs completely around the Stadium, permitting of easy access from one side to the other. The players' entrance leads directly to the level of the field through a tunnel especially constructed for their use. A generous provision of washrooms and toilet rooms, for both men and women, is made under the Stadium itself.

The Stadium is used for football and track athletics. The playing field is specially designed and constructed, with a very extensive drainage system to provide for complete and quick drainage of all parts of the field. The running track consists of a quarter mile track with two hundred and twenty yard straightaway.

Twenty acres of meadow land adjoin the Stadium directly

to the east and give ample parking space for all vehicles which may be brought to the largest games.

The Stadium was designed by Mr. H. J. Hardenbergh, of New York.

NINETEEN ELEVEN FOOTBALL TEAM FIELD HOUSE

The Nineteen Eleven Football Team Field House, erected near the Stadium, is the gift of Cyrus H. McCormick, Esq., of the class of 1879 as a memorial to the Nineteen Eleven Football Team, in recognition of their faithful and untiring work in that year. It is used as a dressing room for the members of the football and track teams and for members of visiting teams of those two sports. It provides ample accommodations for two hundred and fifty men. It is designed to harmonize closely with the Stadium. This building was also designed by Mr. H. J. Hardenbergh, of New York.

PRINCETON UNIVERSITY PRESS

The building of the Princeton University Press, erected and equipped by Charles Scribner, Esq., of the class of 1875, was completed in 1911. It is located on William Street, between the campus and University Field. The building is collegiate Gothic in style, and is planned in the form of the letter H, with a large court which is separated from the street by a battlemented wall. It was designed by Mr. Ernest Flagg, of New York. The material is the local Princeton stone, such as is used in Holder Hall.

The Princeton University Press has been organized under the act providing for "associations not for pecuniary profit," and its objects, as set forth in its charter, are "in the interest of Princeton University to maintain and operate a printing and publishing plant for the promotion of education and scholarship, and to serve the University by manufacturing and distributing its publications."

A complete catalogue of the publications of the Princeton University Press may be had upon application to Princeton University Press, Princeton, New Jersey.

PRINCETON UNIVERSITY STORE

The Princeton University Store is a coöperative association, membership in which is open to all students and other members of the University upon the deposit of a small fee. The store deals in textbooks used in the University, stationery, athletic goods, Princeton souvenirs, confectionery, etc. The members of the store have the privilege of purchasing at a discount from the regular retail price and in addition receive a yearly dividend based on the total amount of their purchases.

PART VIII

EXPENSES, ALLOTMENT OF ROOMS, UNIVERSITY DINING HALLS, UNIVERSITY BILLS, PRIZES, REMISSION OF TUITION, SCHOLARSHIPS, AND CHARITABLE FUNDS

EXPENSES

*Board, 36 weeks .....$6.00 to $8.00 per week
Washing, 36 weeks .....75 cents per week
†Tuition and Public Room fee.....$175.00 per annum
Library fee.....$5.00 per annum
Laboratory fee, extra for each chemical course involving laboratory work .....$7.50 per term
Laboratory fee, extra for the courses Physics 101, 102; Physics 201, 202.....$5.00 per annum
Apparatus deposits (see below)
Room rent in dormitories (according to location of room).....$18.00 to $200.00 per annum
Heat, fixed charge (according to location of room).....$10.00 to $28.00 per annum
Light, fixed charge (according to location of room) .....$12.00 to $28.00 per annum
Infirmary fee.....$7.00 per annum
Department of Physical Education fee.....$10.00 per annum
Matriculation fee, payable upon matriculation $5.00
Graduation fee, payable second term, senior year $12.00

Apparatus Deposits.—Students pursuing laboratory courses are required to make deposits to pay for apparatus injured or destroyed. At the end of the term any excess in favor of the student is placed to his credit on the bill for the next term. The deposits in the courses are: General Physics—$5; Chemistry—$10 to $15 for each course (two terms). In Geodesy—freshmen, second term, $10; sopho-

* Freshmen and sophomores are required to board at the University Dining Halls. The rate of board for the present year is $6.00 per week, but students who are unable to pay the full price are given an opportunity to secure employment as waiters at the Dining Halls and thereby to earn all or a part of the price of board.

† Partial Remission of Tuition is granted, under certain conditions, to students needing assistance. For full information regarding Remission of Tuition, see page 408.

mores, second term, $15; juniors, both terms, $10; seniors, first term, $5.

Students taking any of the courses in graphics will require a drafting outfit costing from $18 to $25.

ESTIMATE OF ANNUAL EXPENSES

UNDERGRADUATE

Average, minimum, medium, and maximum estimates of the necessary expenses for one year of a student occupying an unfurnished room in a dormitory have been prepared as follows:

	Min.	*Med.*	*Max.*
*Board, 36 weeks, at $6.00 to $8.00.....	$216.00	$216.00	$288.00
Washing, 36 weeks, at 75 cents per week	27.00	27.00	27.00
†Tuition and Public Room fees.....	175.00	175.00	175.00
Library fee	5.00	5.00	5.00
Infirmary fee	7.00	7.00	7.00
Department of Physical Education fee...	10.00	10.00	10.00
Room rent	30.00	90.00	200.00
Heat (per room)	10.00	19.00	28.00
Light (per room)	12.00	20.00	28.00
Matriculation fee (entering students)....	5.00	5.00	5.00
Graduation fee (seniors)	12.00	12.00	12.00

Laboratory fees for courses in chemistry and physics, apparatus deposits, books, Hall dues, clothes, furnishings for rooms, incidentals, and traveling and vacation expenses have not been included in these estimates.

* Freshmen and sophomores are required to board at the University Dining Halls. The rate of board for the present year is $6.00 per week, but students who are unable to pay the full price are given an opportunity to secure employment as waiters at the Dining Halls and thereby to earn all or a part of the price of board.

† Partial Remission of Tuition is granted, under certain conditions, to students needing assistance. For full information regarding Remission of Tuition, see page 408.

RULES GOVERNING THE ALLOTMENT AND RENTAL OF ROOMS

I. Rooms will be assigned *members of the University* for occupation during the following academic year between the 15th of May and the 1st of June of each year.

II. This assignment will embrace:

(*a*) All rooms occupied by students whose connection with the University will terminate at the end of the academic year.

(*b*) The rooms of all seniors, whether with room-mate or not (unless the room may be retained by a graduate or for a brother, as elsewhere provided in the rules).

(*c*) All rooms for which the lease has not been properly renewed.

III. An allotment may also take place at the close of the first term of each academic year for the purpose of assigning such rooms as may then fall vacant.

IV. (*a*) The assignment of rooms will in all cases not herein specially excepted take place in such a manner that specific rooms shall be assigned by lot.

(*b*) The rooms to be assigned are classified according to the amount of their rental, without heat and light, in eight groups as listed on pages 389 to 393.

(*c*) The applicants for rooms will be divided into corresponding groups, each applicant being required to inform the Treasurer in writing before the 10th of May, or the 20th of January, as the case may be, both of his intention to enter the drawing and of the group in which he wishes to be placed.

Every applicant for a room shall agree beforehand, and shall be required, to take the room which may be assigned to him by lot in the group in which he has made application.

(*d*) Each drawing will begin with the first group and proceed from that group successively through the several higher groups. Any applicant who does not obtain a room in the group to which he first asked to be assigned may be allowed to draw in the next higher group.

(*e*) If there be any rooms remaining unassigned after a drawing, such rooms may be assigned by subsequent allotment at such time before the end of the year or of the term as the Treasurer may appoint; such supplementary allotment to be made under the same rule as the principal allotment, with this exception, that the rooms disposed of by means of it may be classified in the same way or not, at the discretion of the Treasurer.

(*f*) a. Priority in the drawing will be determined by the length of time the applicants have been members of the University. The first drawing will include the names of all applicants who have been members of the University for more than one year. A second drawing will include the names of all applicants who have been members of the University one year or less.

b. If the application for a double room is signed by students who have been members of the University different lengths of time, it will be classified and placed in the drawing in which the student who has been a member of the University the shortest length of time would be placed.

(*g*) a. On or before the 5th day of May there will be drawn by lot from all single and double rooms available for occupancy in the fall, accommodations for *150 entering freshmen,* equitably distributed among the several groups according to rental.

b. The Registrar of the University will send to all candidates for admission to the *freshman class,* who have been *admitted at the June examinations,* a statement of the location and number of rooms reserved throughout the dor-

mitories for the use of freshmen, together with the rental to be charged in each case, and a statement of the owner's valuation of the furniture, which may have been left in any of the rooms. The student to whom a room may be allotted is under no obligation to purchase furniture which may have been allowed to remain in the rooms as the property of the former occupant. Accompanying this statement will be a form of application blank which may be filed with the Treasurer at any time prior to July 15, upon which the entering student may indicate in what group he desires to draw for a room and whether, in the event of his failure to draw a room in the group first chosen, he is willing to enter his application in the next higher group.

(*h*) Double rooms are separately classified and allotted in accordance with the above regulations. Only such suites as consist of a study and two bedrooms are considered double rooms within the meaning of this clause. No double room can be assigned to a single individual, nor is it within the privilege of any single individual to draw for a double room. Every application for a double room must contain the names of two persons who intend to occupy the room together and who undertake to be jointly responsible for the rent of the same.

(*i*) Whenever for any reason one of the occupants of a double room is permitted or obliged to cancel his room lease, the remaining occupant must vacate the room at the end of the current academic term, unless he agrees to pay the whole rent, or provide a room-mate who shall join him in signing a new lease for the remainder of the academic year.

V. (*a*) The tenure and liabilities of those to whom rooms are assigned under these rules shall be the tenure and liabilities expressed in the following lease, which must be signed in the case of each room allotted by the student who

is to occupy it, and by his parent or guardian. This lease must be signed and delivered to the Treasurer in each case within ten days of the allotment, except in the case of new students, provided for under Rule 4g.

"This agreement, made the day of 191 , between the Trustees of Princeton University and of witnesseth, that the said Trustees of Princeton University do hereby lease unto the said Room No. in the Entry of , to hold for the academic year of , paying therefor during the said term unto said Trustees of Princeton University the yearly rent of $ in two equal payments to be made the one within the first four weeks of the first term of the academic year, the other within the first four weeks of the second term of the academic year.

"And the said covenants to pay the said rent in the manner and at the times aforesaid, and to deliver up the said premises to the said Trustees of Princeton University or its legal representative at the end of said term in as good condition as the same are or may be put into by the said Trustees of Princeton Universtiy, reasonable use and wear and tear thereof, and fire and other casualty excepted. The said lessee also covenants that he will not do or suffer to be done any damage in the leased premises, and that, if any damage beyond reasonable wear and tear be done, he will cause the same to be made good as soon as possible at his own expense, employing for that purpose the proper University workmen, and paying the costs thereof at once to the University Treasurer, it being understood that the damage here meant includes the breakage of glass and locks, whether by accident or design. The said lessee further covenants that he will not sublet the same or any part thereof, nor permit any other person or persons to occupy the same or any part thereof, nor make nor suffer to be made any alteration therein without the consent of the said Trustees of Princeton University for that purpose in writing first had and obtained. And the said lessee further convenants that the said Trustees of Princeton University through their authorized representatives may enter the said premises for the purpose of viewing or making improvements therein at any reasonable times in the daytime, or at any other time for the legitimate purposes of University discipline. This lease is made on the express condition that it may be terminated by said Trustees through their representative."

(*b*) Any occupant of a college room may retain his room until the end of his undergraduate or graduate course, provided he annually notify the Treasurer of his intention of retaining it and sign a new lease before the 1st of May; otherwise his room will be considered vacant and will be included in the next allotment. In case an occupant of a double room be left without a roommate at the end of the academic year, he may renew his lease upon condition of naming another student of the University who will become joint lessee with him for the following year, unless the roommate who leaves is a senior or a fourth-year special. It will also be the privilege of any occupant of a college room to renew his lease at the end of his own tenure in the name of his brother, when that brother is to enter the University immediately.

(*c*) The right to occupy a room is not transferable and terminates with the expiration of the lease. Any attempt on the part of the occupant of a college room to sell or transfer, directly or indirectly, his right of occupancy will be deemed a fraudulent transaction. The penalty for violating this rule will be forfeiture of the room by the new lessee.

(*d*) The occupant of a college room shall deposit with the Secretary of Business Administration the sum of 25 cents for each key to his room that may be furnished him by the University; and all amounts paid under this clause will be refunded upon return of the key or keys furnished.

VI. (*a*) The seller and buyer of furniture in rooms allotted to students now in college will be required to file in the office of the Secretary of Business Administration, on or before June 15, a statement signed by each of the students concerned and by their parents or guardians, to the effect that they have agreed upon a mutually satisfactory price for such of the furniture as the buyer is willing to purchase.

In the absence of such an agreement being filed on or before June 15, the owner of the furniture will be notified to remove it immediately. If this notice is not complied with, the furniture will be sold by the University authorities.

(*b*) If any of the rooms drawn and held in reserve for the next incoming freshman class contain furniture, the owner of the furniture will be informed that it must be removed not later than the day in September when the dormitories are opened for occupancy; unless the freshman to whom it is allotted shall elect to purchase it at the price fixed by the owner.

VII. No exchange of rooms will be allowed unless formally sanctioned in writing by the Treasurer; and then only upon terms explicitly stated in a written application signed by both parties to the proposed exchange, and not in contravention of the spirit of these rules. Such application will be kept on file in the Treasurer's office.

VIII. When rooms are vacated during a term, the rent must be paid until the end of the term. An occupant of a college room who expects to be absent on leave for a term may be released from the obligations of his lease, provided he notify the Treasurer before the beginning of the term during which he expects to be absent, and give up the room; but no abatement or drawback of room rent will be allowed for any period less than a term, except in special cases to be stated in writing, and by permission of the Treasurer.

The Faculty of the University is directed to suspend or expel every student that may be found guilty of breaking or evading these rules or of injuring or interfering with the person or property of his successor in a room; or of aiding or abetting another in such transgression, evasion, injury, or interference. The Faculty and all its officers are instructed to take the utmost pains, by ordinary or extraordinary means, to discover such offenders and prevent such offenses.

The Faculty is further instructed to report, with the evidence discovered, the names of any graduate or outsider that may be guilty of such offenses to the Committee on Grounds and Buildings; and said committee is authorized and directed to procure legal counsel and when the evidence seems to justify it to take appropriate legal proceedings against any and every offender before a court of law.

LIST OF DORMITORY ROOMS

FIRST GROUP ($18.00-$37.00)

43 SINGLE ROOMS

$18.00	(4)	*Reunion:* 16 S M; 17 S M; 18 S M; 19 S M.
26.00	(5)	*Dod:* 12 N; 12 S. *Edwards:* 2 N; 5 N; 10 S.
30.00	(1)	*Dod:* 7 M.
32.00	(10)	*Edwards:* 7 N; 8 N; 32 N; 35 N; 7 S; 8 S; 37 S; 40 S; 41 S; 42 S.
35.00	(1)	*West:* 9 S.
36.00	(2)	*Hamilton:* 306; 307.
37.00	(20)	*Edwards:* 1 N; 9 N; 10 N; 12 N; 15 N; 22 N; 25 N; 37 N; 38 N; 39 N; 40 N; 2 S; 5 S; 9 S; 17 S; 20 S; 27 S; 30 S; 38 S; 39 S.

SECOND GROUP ($42.00-$70.00)

87 SINGLE ROOMS

$42.00	(19)	*Reunion:* 1 N M; 2 N M; 3 N M; 1 S M; 2 S M; 3 S M. *Edwards:* 18 N; 19 N; 28 N; 29 N; 41 N; 42 N; 1 S; 18 S; 19 S; 28 S; 29 S; 32 S; 35 S.
45.00	(2)	*Brown:* "A", E; "B", W.
48.00	(14)	*Reunion:* 13 N M; 14 N M; 15 N M; 13 S M; 14 S M; 15 S M. *Edwards:* 17 N; 20 N; 27 N; 30 N; 12 S; 15 S; 22 S; 25 S.
50.00	(1)	*West:* 10 N.
52.00	(14)	*Hamilton:* 1 A; 2 A. *Edwards:* 11 N; 16 N; 21 N; 26 N; 31 N; 36 N; 11 S; 16 S; 21 S; 26 S; 31 S; 36 S;
55.00	(4)	*Brown:* "C", E; "E", E; "D", W; "F", W.
60.00	(1)	*Witherspoon:* 17 E.
64.00	(18)	*Reunion:* 4 N M; 5 N M; 6 N M; 7 N M; 8 N M; 9 N M; 10 N M; 11 N M; 12 N M; 4 S M; 5 S M; 6 S M; 7 S M; 8 S M; 9 S M; 10 S M; 11 S M; 12 S M.

65.00 (3) *Witherspoon:* 17 W. *Edwards:* 3 N; 4 N.
70.00 (11) *Dod:* 21 M; 22 M; 24 M; 25 M; 27 M; 13 N; 13 S. *Edwards:* 33 N; 34 N; 3 S; 4 S.

THIRD GROUP ($74.00-$105.00)

125 SINGLE ROOMS

$74.00 (4) *West:* 17 N; 20 N; 18 S; 19 S.
75.00 (25) *Edwards:* 13 N; 14 N; 23 N; 24 N; 33 N; 34 N. *Dod:* 1 M; 3 M; 4 M; 6 M; 1 N; 1 S. *Brown:* 1 E; 10 E; 1 W; 10 W; 1 S E; 10 S E; 1 S W; 10 S W. *Witherspoon:* 18 E; 19 E; 18 W; 19 W. *Upper Pyne:* 14.
80.00 (14) *Edwards:* 13 S; 14 S; 23 S; 24 S. *Blair:* 61. *Witherspoon:* 1 E; 13 E; 1 W; 13 W; 8 E M; 8 W M. *Cuyler:* 413. *Hamilton:* 1 C; 2 C.
84.00 (4) *West:* 18 N; 19 N; 17 S; 20 S.
85.00 (32) *Holder:* 2 B; 105; 106. *Little:* 46. *Witherspoon:* 5 E; 9 E; 5 W; 9 W. *Dod:* 8 M; 10 M; 11 M; 13 M; 14 M; 15 M; 17 M; 18 M; 20 M; 5 N; 9 N; 5 S; 9 S. *Brown:* 4 E; 7 E; 4 W; 7 W; 4 S E; 7 S E; 4 S W; 7 S W. *Cuyler:* 442; 452; 461.
95.00 (19) *Blair:* 1; 63. *West:* 5 N; 6 N; 7 N; 8 N; 9 N; 11 N; 12 N; 13 N; 14 N; 15 N; 16 N; 6 S; 7 S; 10 S; 11 S; 14 S; 15 S.
100.00 (5) *Little:* 18. *Witherspoon:* 2 E; 3 E; 2 W; 3 W.
105.00 (22) *Blair:* 93. *Holder:* 14 A. *Cuyler:* 144; 161; 244; 411; 412; 421; 431; 432; 441; 451; 462. *Little:* 15; 32; 34; 44. *West:* 5 S; 8 S; 12 S; 13 S; 16 S.

16 DOUBLE ROOMS

$74.00 (4) *Reunion:* 9 N; 10 N; 9 S; 10 S.
105.00 (12) *Reunion:* 3 N; 4 N; 5 N; 6 N; 7 N; 8 N; 3 S; 4 S; 5 S; 6 S; 7 S; 8 S.

FOURTH GROUP ($120.00-$155.00)

34 SINGLE ROOMS

$120.00 (1) *Witherspoon:* 20 E.
125.00 (14) *Witherspoon:* 6 E; 7 E; 10 E; 11 E; 14 E; 15 E; 6 W; 7 W; 10 W; 11 W; 14 W; 15 W. *Little:* 16. *Upper Pyne:* 12.
130.00 (9) *Blair:* 94. *Hamilton:* 1 B; 2 B. *Cuyler:* 261; 262; 352; 362. *Patton:* 100; 109.
135.00 (3) *Hamilton:* 304; 305. *Holder:* 1 A.

150.00 (4) *Witherspoon:* 20 W. *Upper Pyne:* 3; 8; 13.
155.00 (3) *Patton:* 103; 105; 107.

10 DOUBLE ROOMS

$120.00 (6) *Witherspoon:* 2 E M; 9 E M; 10 E M; 2 W M; 9 W M; 10 W M.
125.00 (1) *Hamilton:* 311.
130.00 (2) *Witherspoon:* 1 E M; 1 W M.
150.00 (1) *Little:* 101.

FIFTH GROUP ($160.00-$190.00)

45 SINGLE ROOMS

$160.00 (14) *Little:* 13; 14. *Witherspoon:* 4 E. *Blair:* 113; 114. *Campbell:* 2 A. *Cuyler:* 141; 142; 242; 361. *Patton:* 14; 15; 24; 25.
175.00 (7) *Witherspoon:* 8 E; 12 E; 16 E; 4 W; 8 W; 12 W; 16 W.
185.00 (5) *Little:* 62. *Blair:* 111; 112. *Cuyler:* 342. *Patton:* 101.
190.00 (19) *Campbell:* 11; 12; 13; 14; 21; 22; 23; 24; 53; 54; 55; 56; 61; 62; 63; 64; 65; 66; 1 A.

27 DOUBLE ROOMS

$170.00 (4) *Campbell:* 3 A; 5 A; 6 A; 2 B.
175.00 (6) *Witherspoon:* 5 E M; 6 E M; 7 E M; 5 W M; 6 W M; 7 W M.
180.00 (4) *Witherspoon:* 3 E M; 4 E M; 3 W M; 4 W M.
185.00 (4) *Blair:* 11; 31; 33; 41.
190.00 (9) *Patton:* 34. *Brown:* 3 E; 6 E; 9 E; 12 E; 3 W; 6 W; 9 W; 12 W.

SIXTH GROUP ($200.00-$250.00)

20 SINGLE ROOMS

$200.00 (4) *Upper Pyne:* 4; 9. *Lower Pyne:* 2; 8.
210.00 (8) *Little:* 63; 124; 134; 144. *Blair:* 3; 5. *Hamilton:* 301. *Patton:* 91.
225.00 (4) *Upper Pyne:* 5; 10. *Lower Pyne:* 4; 10.
240.00 (4) *Little:* 151; 152; 163; 164.

110 DOUBLE ROOMS

$200.00 (4) *Dod:* 14 N; 15 N; 14 S; 15 S.
210.00 (40) *Brown:* 2 E; 5 E; 8 E; 11 E; 2 W; 5 W; 8 W; 11 W. *Little:* 31; 61. *Blair:* 4; 21; 23; 34; 43; 44; 51; 52; 53; 54; 65; 71; 73; 81; 83; 91; 95; 97. *Hamilton:*

3 A; 3 C. *Holder:* 3 A; 7 A; 3 B; 7 B; 2 D; 11; 12. *Patton:* 30; 31; 32.

225.00 (2) *Brown:* 12 S E; 12 S W.

240.00 (59) *Brown:* 3 S E; 6 S E; 9 S E; 3 S W; 6 S W; 9 S W. *Dod:* 2 N; 3 N; 6 N; 7 N; 10 N; 11 N; 2 S; 3 S; 6 S; 7 S; 10 S; 11 S. *Little:* 21; 23; 35; 38; 41; 43; 51; 53; 54. *Blair:* 13; 15; 17; 64; 72; 74; 84; 92; 98. *Campbell:* 4 A. *Holder:* 4 A; 5 A; 6 A; 9 A; 10 A; 11 A; 12 A; 13 A; 8 B; 8 C. *Patton:* 33; 35; 36; 102. *'79 Hall:* 21; 23; 31; 33; 43; 51; 53; 61.

250.00 (5) *Brown:* 11 S E; 11 S W. *Dod:* 23 M; 26 M. *Lower Pyne:* 15.

SEVENTH GROUP ($260.00-$315.00)

1 Single Room

$265.00 (1) *Little:* 186.

199 Double Rooms

$260.00 (3) *Dod:* 16 M; 19 M. *Blair:* 6.

265.00 (87) *Brown:* 2 S E; 5 S E; 8 S E; 2 S W; 5 S W; 8 S W. *Dod:* 2 M; 5 M; 9 M; 12 M. *Little:* 22; 24; 33; 36; 42; 52; 121; 123; 131; 133; 141; 143; 171. *Blair:* 12; 14; 16; 22; 24; 32; 42; 62; 82; 96; 101; 102; 103. *Hamilton:* 11; 21; 309; 310; 312. *Cuyler:* 143; 162; 211; 221; 222; 231; 241; 243; 251; 311; 321; 322; 331; 341; 343; 351. *Holder:* 8 A; 2 C; 21; 51; 113. *Patton:* 10; 11; 13; 20; 21; 22; 23; 60; 61; 62; 63; 70; 71; 72; 73; 81; 82; 83; 84; 85; 90; 92; 94; 108. *'79 Hall:* 41.

290.00 (55) *Little:* 122; 132; 142. *Hamilton:* 12; 14; 22; 24; 308. *Campbell:* 25; 26; 27; 28. *Holder:* 2 A; 22; 31; 32; 33; 34; 41; 42; 52; 53; 54; 61; 62; 71; 72; 75; 76; 84; 91; 93; 94; 111; 114; 121; 122; 123; 124; 131; 132; 133; 134; 141; 142; 143. *'79 Hall;* 11; 13; 22; 24; 34; 44; 52; 62; 63.

300.00 (5) *Upper Pyne:* 11. *Lower Pyne:* 1; 5; 7; 11.

310.00 (4) *Blair:* 7; 9. *Patton:* 12. *'79 Hall:* 32.

315.00 (45) *Little:* 64; 71; 72; 161; 172; 181; 185. *Blair:* 104; 115; 116. *Hamilton:* 3 B; 300. *Campbell:* 15; 31; 32; 33; 34; 41; 51; 52. *Cuyler:* 212; 232; 263; 312; 332; 363. *Holder:* 43; 44; 63; 64; 73; 74; 81; 82; 92; 103; 104; 112. *Patton:* 80; 93; 95; 104; 106. *'79 Hall:* 42; 54.

EIGHTH GROUP ($340.00 and over)

36 Double Rooms

$340.00	(4)	*Little:* 66; 68; 162. *Campbell:* 16.
345.00	(5)	*Campbell:* 42; 44. '79 *Hall:* 12; 14; 64.
350.00	(6)	*Upper Pyne:* 1; 2; 6; 7. *Lower Pyne:* 3; 9.
370.00	(6)	*Little:* 182; 183. *Holder:* 65; 66; 101; 102.
395.00	(1)	*Little:* 184.
420.00	(5)	*Blair:* 2 (with privilege of a third occupant). *Patton:* Suites 42 and 52, 43 and 53 (4 occupants in each suite).
425.00	(1)	*Little:* 153.
450.00	(1)	*Little:* 154.
475.00	(5)	*Little:* 111 (3 occupants). *Patton:* Suites 40 and 50, 41 and 51 (4 occupants in each suite).
525.00	(1)	*Little:* 112 (3 occupants).
630.00	(1)	*Blair:* "A" (3 occupants).

THE UNIVERSITY DINING HALLS

The new University Dining Halls, now in the course of erection, are expected to be completed and ready for use in September 1916.

Freshmen and sophomores are required to take their meals at the University Dining Halls, which are located at present on the first and second floors of University Hall, at the corner of Nassau Street and University Place. Juniors and seniors who belong to upperclass clubs eat at those clubs, while non-club men either eat at the Dining Halls or at private boarding houses approved by the Secretary of Business Administration. About ten dining rooms are assigned to freshmen, and a sufficient number to sophomores. Three are assigned to upperclassmen. Students are encouraged to eat in any dining room assigned to their class in which they happen at any particular meal to find congenial friends. In addition to dining rooms there are commons rooms or lounging rooms.

The Dining Halls are subject to constant sanitary inspection. The kitchen is fitted with all the best appliances for cooking and serving on a large scale, and adjoining are a bakery, an ice cream plant, and a milk sterilizing plant. The Halls are in charge of a salaried manager who reports directly to the Secretary of Business Administration. The Manager is assisted by a Dining Halls Committee of fourteen undergraduates. The object of the Dining Halls is to provide wholesome and abundant food at the cheapest rate compatible with proper service, and amid hygienic and attractive surroundings. The fact that non-club upperclassmen are preferring to eat at the Halls rather than make their own arrangements is believed to indicate that the board provided is better than can be obtained elsewhere. The

price per week is $6.00. Students who are unable to pay the full price of board are given employment as waiters at the Dining Halls and thereby earn all or a part of the price of board. By waiting upon table for two meals each day, a student can earn his entire board. For the third meal, he sits at table with his classmates. Students who wish to secure employment as waiters should communicate with the Secretary of the University or the Secretary of the Bureau of Self-Help.

UNIVERSITY BILLS

All university expenses, including board, must be paid in advance to the Treasurer of the University.

Students are required to call at the Treasurer's office in the course of the first ten days of each term, and to give information as to their place of boarding, etc., so that their bills can be made out. All bills must be paid within the first four weeks of the term. Failure to comply with this rule will deprive the students of the privileges of the University until payment is made, unless excused by special vote of the Faculty.

When a student enters the University before the middle of the term, he shall pay in full the usual charges for that term, with the exception of the charges for board; if he enter after the middle of the term, he shall pay one-half. For board he shall pay in proportion to the time.

When a student leaves the University, whether voluntarily or by dismissal, before the middle of any term, one-half of the charges for tuition and public rooms for that term will be refunded. But in the case of temporary absence and subsequent return, although the absence be for more than half a term, no such rebate will be granted.

When a student is dismissed from the University for any

cause, the advance deposit for board, heat, and light, beyond the time of dismissal, will be refunded to his parent or guardian.

When at the end of the first term the amount of the advance deposit proves to be in excess of the sum required to defray the board or room bills of any student, the excess will be credited on his bill for the next term. At the end of the academic year the amounts overpaid by the members of the *graduating class* for board, room rent, heat, and light will be refunded by the Treasurer to the student's parent or guardian. The parent or guardian of *every undergraduate* will be advised of the amount of excess to the credit of his son or ward, and such amount will be *carried over to his credit on the bill for the first term of the following year.* In case of the withdrawal or dismissal from the University of any undergraduate at the end of the college year, such excess will be refunded by the Treasurer to the parent or guardian, when informed by the Dean of the College that such undergraduate has been withdrawn or dismissed from the University.

PRIZES

ALEXANDER GUTHRIE MC COSH PRIZE

The interest of $1,500 will be given annually to that member of the senior class who shall write the best essay in philosophy, including psychology, logic, metaphysics, and the history of philosophy. Any one of the following subjects may be chosen: The Relation of Philosophy to Art; The Nature of Truth; The Criteria of Intelligence. The essay must be presented on or before April 10.

LYNDE DEBATE PRIZES

Three prizes, the income of $5,000 contributed by Charles R. Lynde, Esq., will be awarded by a committee appointed by the Faculty, to the three successful competitors in a debate held immediately prior to the trials for the appointment of intercollegiate debaters. The debaters are six in number, three from each of the Literary Societies, and are selected by committees appointed by the Societies respectively from their own members in the Faculty.

BAIRD PRIZES

Through the liberality of Charles O. Baird, Esq., the following prizes, representing the income of $6,000, will be given to those who excel in the oratorical exercises of the senior class, viz.: The Baird Prize of $100 to the best speaker of those who have ranked among the first six writers in any two of the three subjects of English literature, rhetoric, and oratory; a prize for oratory of $50 to the best speaker, exclusive of the Baird Prizeman, of those who, in the same departments, have ranked among the first twelve writers; a prize for delivery of $30 to the best speaker exclusive of the two just mentioned; also, a

prize for poetry of $50; and two prizes of $40 and $30, respectively, for the best and second best written disputations.

CLASS OF 1859 PRIZE

The interest of $2,000, given by the Class of 1859, will be awarded to that member of the senior class who shall write the best essay on Johnson and His Circle, and pass the best examination on Eighteenth Century Comedy. The essay must be handed in on or before May 31, and the examination will be held in June. The subject of the essay for the Class of 1917 will be Hawthorne.

GEORGE POTTS BIBLE PRIZES

The yearly interest of $1,000, given in 1867 by Mrs. Sarah A. Brown, expended in the purchase of two copies of Matthew Henry's *Commentary on the Bible,* will be presented to the best two Biblical scholars of the senior class at the end of their course.

LYMAN H. ATWATER PRIZE IN POLITICAL SCIENCE

This prize, being the annual interest on the sum of $1,000, contributed by the Class of 1883, was instituted as a memorial of the Rev. Lyman H. Atwater, D.D., LL.D., Professor of Political Science. It will be given to that member of the senior class who shall have passed the best examination and written the best thesis on some subject in political science, to be assigned by the professors in charge of Jurisprudence and Politics.

The thesis must be in the hands of the Chairman of the Department of History and Politics by June 1; the examination will be held on that day. The subject for the thesis in 1916 and the basis on which the examination is to be set will be: Civil Service Reform; Its Growth and Possibilities.

FREDERICK BARNARD WHITE PRIZE IN ARCHITECTURE

The late Mrs. Norman White established in memory of her son, Frederick Barnard White, of the Class of 1883, a prize in architecture, yielding $40. The prize is open to the entire junior and senior classes and to special students who take a full schedule of studies. The subject of the essay for the year 1915-1916 is: The Vaults of Gothic Churches in Spain. The subject of the examination is Gothic Architecture in Spain. The essay should be presented on or before May 15.

CLASS OF 1869 PRIZE IN ETHICS

The annual interest of $3,000, given by the Class of 1869, will be awarded to that member of the senior class who shall pass the best examination in ethics and write the best essay. The essay must be presented on or before May 8. The subject of the essay for the Class of 1916 will be: Non-Resistance as an Ethical Ideal.

C. O. JOLINE PRIZE IN AMERICAN POLITICAL HISTORY

The sum of $50 will be awarded annually at Commencement to that member of the graduating class who shall have maintained a creditable standing in the subject of American history, and who shall have submitted the best written dissertation upon The Foreign Policy of Grover Cleveland.

The dissertation must be at least 5,000 words in length and must be accompanied by a bibliography of the subject. Specific references to the sources used must be given throughout.

The prize shall be awarded by the professor or professors in charge of the Department of American History.

THE NEW YORK HERALD PRIZE

The yearly interest of $1,000, presented by James Gordon Bennett, Esq., will be given to that member of the

senior class, or to the special student of satisfactory standing, who shall have taken for both terms of senior year at least two of the courses given by the Departments of History and Politics, and of Economics, and at least one course in English literature for both terms, and who shall have presented the best thesis in English prose upon some subject of contemporaneous interest in the domestic or foreign policy of the United States Government. The thesis must be in the hands of the Chairman of the Department of History and Politics by June 1. The subject for the thesis in 1916 will be: The Presidential Power in Determining Our Foreign Relations.

CLASS OF 1876 MEMORIAL PRIZE FOR DEBATE IN POLITICAL SCIENCE

This prize is to be given annually by the Class of 1876 to the successful contestant in a debate on a subject of current interest in American politics, to be held on Washington's Birthday, said prize to be the interest of $2,000. The competitors, four in number, one from each class, are to be chosen by a vote of their respective classes.

PHILO SHERMAN BENNETT PRIZE IN POLITICAL SCIENCE

The interest on the sum of four hundred dollars, the gift of the late Philo Sherman Bennett, of New Haven, Connecticut, will be given to that member of the senior or junior class of the University who shall write the best essay discussing the principles of free government. The essay must be in the hands of the Chairman of the Department of History and Politics by June 1.

*SPENCER TRASK DEBATING FUND

The interest of $3,000, given by the late Spencer Trask, of the Class of 1866, has been used to promote debating.

*There is at present no income from the Spencer Trask Debating Fund.

One-third of the interest has been awarded to the best debater in the trials for the intercollegiate debates with Yale and Harvard; one-third for library books used in connection with debating; and one-third for general debating expenses.

PRIZE IN AMERICAN HISTORY, ESTABLISHED BY THE SOCIETY OF COLONIAL WARS IN THE STATE OF NEW JERSEY

The sum of $50 will be awarded every year to that undergraduate of Princeton University who shall have submitted the best written dissertation upon some subject of American Colonial history assigned by the Department of American History.

The dissertation must be at least 5,000 words in length and must be accompanied by a bibliography of the sources used. Specific reference to the sources must be given throughout.

Dissertations in competition must be in the hands of the Registrar before May 1, and must be submitted anonymously. The names of the authors should be inclosed in sealed envelopes and attached to the dissertations.

The prize shall be awarded by the Professor or Professors in charge of the Department of American History, and the decision shall be announced at Commencement.

The subject for the year 1915-1916 is: New Jersey under Governor Lewis Morris, 1738-1746.

GARRETT PRIZE ON LATIN AMERICA

The sum of $100, the gift of John W. Garrett, Esq., of the Class of 1895, will be awarded annually, at Commencement, to that member of the Princeton undergraduate body who shall have submitted the best essay upon some subject connected with Latin America.

The essay must be at least five thousand words in length and must include a bibliography of the sources used.

Specific references to the sources must also be given throughout.

The subject for the essays of the year 1915-1916 will be: German Influence in South America. The essays must be in the hands of the Chairman of the Department of History and Politics before June 1.

MANNERS PRIZES

The income from an endowment of $6,000, the bequest of the late Edwin Manners, of the Class of 1877, is to be devoted annually to the advancement of literary and historical studies.

One half of the income will be awarded annually at Commencement to that student of the Graduate School who shall have submitted the best monograph on the history of New Jersey. This monograph must be at least 25,000 words in length, and must be accompanied by a bibliography of the subject discussed. Specific references to the sources used must be given throughout. The monograph must be in the hands of the Chairman of the Department of History and Politics by May 1. The recipient of the award shall be designated "The Nova Caesarea Scholar."

Of the other half of the income, a suitable portion shall be expended for a gold medal in the form of a tiger, and this medal with the balance of the money will be given annually at Commencement to that member of the senior class who shall write the best character study or descriptive sketch in prose or verse. The manuscripts must be in the hands of the Chairman of the Department of English by May 1. By direction of the donor the recipient of the award shall be designated "The Winner of the Golden Tiger."

LAWRENCE HUTTON PRIZE IN HISTORY

The income from an endowment of $2,500, given by Samuel Elliott, Esq., as a memorial to his friend, the late

Lawrence Hutton, will be awarded annually at Commencement to that student of the University adjudged by the Faculty to have excelled in the work of the Department of History. The prize is open alike to graduate and undergraduate students.

CHARLES IRA YOUNG MEMORIAL TABLET AND MEDAL

A memorial tablet to the late Charles Ira Young, of the Class of 1883, has been placed in the Palmer Laboratory by friends of Mr. Young.

In connection with this memorial, a bronze medal will be awarded each year to the student in the University who excells in research in Electrical Engineering, the medal to be known as the "Charles Ira Young Memorial Medal." The name of the winner of the medal is also to be inscribed each year upon the memorial tablet mentioned above.

CLASS OF 1870 SENIOR AND JUNIOR ENGLISH PRIZES

Of the yearly interest of $1,500, one-half will be given to the best Old English scholar of the senior academic class, and one-half to the best English literature scholar of the junior academic class.

WOOD LEGACY

The sum of $150, the income of a legacy of Dr. George B. Wood, will be awarded to that member of the junior class who shall stand highest for the junior year.

JUNIOR ORATOR MEDALS AND MACLEAN PRIZE

Four gold medals, or books of equal value, will be awarded by a committee, appointed by the Board of Trustees, to the four successful competitors in an oratorical contest during Commencement week. The competitors are eight members of the junior class—four from the Cliosophic and four from the American Whig Societies—selected

by committees appointed by the Societies respectively from their own members in the Faculty.

The Maclean Prize, founded by the will of the late Henry A. Stinnecke, consisting of the sum of $100, will be given to that one of the orators chosen by the Literary Societies from the junior class who shall during Commencement week pronounce the best English oration.

The committee of judges will be composed of a professor of English and two graduates of the University not members of the Faculty.

DICKINSON PRIZE

The Dickinson Prize, founded in 1782 by the Hon. John Dickinson, of New Jersey, Governor of Pennsylvania and Delaware, consisting of a medal of the value of $60 (or its equivalent in money), will be awarded to that member of the junior class who shall write the best dissertation upon any one of the following themes in logic: The Theory of the Judgment; The Nature of Inference; The Nature of Implication. The dissertation must be presented on or before May 15.

THOMAS B. WANAMAKER ENGLISH LANGUAGE PRIZE

This prize, the yearly interest of $1,000, will be given to that member of the junior academic class who shall pass the best examination in English philology, and write the best thesis on some assigned topic therein.

MARY CUNNINGHAM HUMPHREYS JUNIOR GERMAN PRIZES

Two prizes, of $25 and $15 respectively, established by the late Professor Willard Humphreys, in memory of his mother, Mary Cunningham Humphreys, will be awarded to those members of the junior class who, having taken the regular German course for at least two years (all the

courses in the Germanic Section of the Modern Language Department in junior year and either Courses 105, 106 or 203, 204) shall, at the close of the second term, pass the best examination on the work of the term.

R. PERCY ALDEN MEMORIAL PRIZES

The income of $1,000, given by Mr. John P. C. Alden of the Class of 1907, and divided into a first and second prize, will be awarded annually to the two members of the junior French course who shall submit the best essays on a subject relating to French memoirs. The essays must be presented on or before May 15.

CLASS OF 1883 PRIZES FOR ENGLISH IN THE SCHOOL OF SCIENCE

Class of 1883 English Prize for Juniors in B.S. and Litt.B. Courses:—This prize, the annual interest of $1,000, will be given to that member of the junior class, a candidate for the degree of B.S. or Litt.B., who shall have done the best work in the English studies of the year and submitted the best essay on a subject in English literature assigned by the English Department.

Class of 1883 English Prize for Freshmen in the Civil Engineering Course:—This prize, the annual interest of $1,000, will be given to that member of the freshman class, in the civil engineering course, who shall have done the best work in the English studies of the year, and shall have submitted the best essay on a subject assigned by the English Department.

STINNECKE PRIZE

The Stinnecke Foundation was established in 1870 by the will of the late Henry A. Stinnecke, of the Class of 1861, and was supplemented by a bequest received in 1876 from

his aunt, Miss Maria Stinnecke. The income is divided between the Stinnecke Scholarship of $500 and the Maclean Prize of $100.

The Stinnecke Scholarship, of the annual value of $500, tenable during the undergraduate course unless forfeited by neglect of study, is given every third year "to that person who, having entered the sophomore class, passes the best examination at the opening of the session in September, in the Odes of Horace, the Eclogues of Virgil, and the Latin Grammar and Prosody, as well as the Anabasis or Cyropaedia of Xenophon and the Greek Grammar." Students of the University who have been members of the freshman class, as well as new students entering the sophomore class, will be admitted to such examination. The committee of examiners is appointed by the Board of Trustees. The next competition for this scholarship will be held in the autumn of 1917.

CLASS OF 1861 PRIZE

The interest of $1,200 given by the Class of 1861, will be awarded to the member of the sophomore class who shall pass the best examination at the end of the year on the elective mathematics of the sophomore year.

FRANCIS BIDDLE SOPHOMORE ESSAY PRIZE

This prize, the yearly interest of $500, will be given to that member of the sophomore class who shall write the best English essay of the year.

CLASS OF 1870 SOPHOMORE ENGLISH PRIZE

This prize, the yearly interest of $1,000, will be given to that member of the sophomore academic class who shall pass the best examination on the English studies of the year.

ORANGE ALUMNI ASSOCIATION PRIZE SCHOLARSHIP

This scholarship, which pays the holder $200 per annum, the income from $4,000, given by the Princeton Alumni Association of the Oranges, will be awarded in accordance with the following conditions:

I. Only those are eligible to compete for this scholarship whose parents or family shall at the time of the competition have been resident for at least one year in the district of the Princeton Alumni Association of the Oranges, and who themselves are in residence at Princeton as regular members of the freshman class in a course leading to a bachelor's degree.

II. For those eligible to compete for this scholarship a special examination shall be arranged as early in the first term as may be convenient, the material of which shall be selected from the subjects required for entrance. The Faculty shall name as winner of the scholarship that student who stands highest in this examination, and as alternate the student who stands next highest. This alternate may become the holder of the scholarship in case of the death or removal of the winner.

III. The scholarship shall be retained by its winner during his freshman and sophomore years, provided that in his studies he maintains a rank not below the second general group and that he does not come under serious discipline for misconduct.

The last competition for this scholarship was held in the autumn of 1915. The next competition will be in the autumn of 1917.

REMISSION OF TUITION

Candidates for the degree of Bachelor of Arts, Bachelor of Letters, or Bachelor of Science of insufficient means and of more than ordinary intellectual ability may apply for remission of a part of the charge for tuition. Freshman applicants who present satisfactory testimonials as to scholarship and character, and proof that the assistance is absolutely needed, will be granted remission of sixty-two dollars and fifty cents a term from the charge for tuition, on admission to the University. In sophomore, junior and senior years the amount of tuition remitted may vary from fifty dollars to sixty-two dollars and fifty cents a term, at the discretion of the Secretary of the University.

Within the first ten days after the opening of college and before having their bills made out, *applicants must call at the office of the Secretary of the University* for the necessary order for remission of tuition. This remission is in the form of a loan, and all who receive it are required to sign a non-interest-bearing note, to be held by the University, which the signer holds himself morally bound to pay at the earliest date practicable.

Remission of tuition is granted in all cases for one term and subject to the following conditions:

I. The student must be regular in attendance at his college exercises and free from serious discipline.

II. His college standing must not be below the third general group.

III. His board must not exceed six dollars a week; and his room, if single, must not be above the third group, as described on page 390 of the Catalogue; or, if double, above the fifth group, as described on page 391 of the Catalogue. Students rooming elsewhere than in the dor-

mitories must not pay more than three dollars and fifty cents a week for rent, including light and heat.

A student who has fulfilled these conditions during the first term of a college year will be granted remission of tuition for the second term of that year without further application.

In accepting remission of tuition it is understood that a student agrees to devote his time and energies to his studies, and if his work shall appear to suffer by reason of participation in extra-curriculum activities, or if his scale of living shall seem to be out of proportion to his means, he shall forfeit the remission of tuition even though he shall have complied technically with the rules.

For application blanks and further information apply to the Secretary of the University, Princeton, New Jersey.

SCHOLARSHIPS

SCHOLARSHIPS FOUNDED BETWEEN 1853 AND 1902

(Income now used for University Scholarships)

In 1853 the Trustees authorized the Faculty to take such measures as might seem to them necessary towards securing a number of scholarships with a principal of one thousand dollars each. Pursuant to this authorization, between 1853 and 1902 sixty-four scholarships with a principal of one thousand dollars each were endowed by John Aitken, E. F. Backus, A. B. Baylis, Charles S. Baylis, James Blair, Isaac V. Brokaw, Mrs. P. Bullard, Hons. Simon and Donald Cameron (1), Aaron Carter, Jonathan Cogswell, D.D., Roswell Colt (3), Stephen Colwell, A. Creswell, Hon. Amzi Dodd (the Bloomfield Scholarship), Aaron Fenton, A friend, A friend (the Henry M. Alexander Scholarship), A friend of President Maclean (the John Maclean Scholarship), Friends of President McCosh (the James McCosh Scholarship), Hon. Henry W. Green, Dudley S. Gregory, Richard T. Haines, Gen. N. Norris Halsted, Albert O. Headley, Dr. Hugh L. Hodge, Capt. Silas Holmes (5); Hon. John P. Jackson, Peter Jacobus, Jacob J. Janeway, D.D., Ladies of the Presbyterian Church of Huntington, N. Y., James Lenox (5), Drs. John and George M. Maclean (1), J. D. McCord, Frederick Marquand, Members of the Class of 1841, Members of the Class of 1856, Members of the First Presbyterian Church of Bridgeton, N. J., Members of the First Presbyterian Church of Peekskill, N. Y., Members of the First Presbyterian Church of Trenton, N. J., Members of the Second Presbyterian Church of Elizabeth, N. J., George W. Musgrave, D.D., Matthew Newkirk, Dr. Samuel H. Pennington, Hon. Nehemiah Perry, Issac N. Rankin, Harry E. Richards, M.D., George L. Sampson (the Henry J. van Dyke Scholarship), Joseph R. Skidmore, I. S.

Spencer, Alanson Trask, Joseph N. Tuttle, Hon. John Van Vorst, William White, and Chandler Withington; and one scholarship with a principal of one thousand five hundred dollars was endowed by Henry M. Flagler.

During the same period twenty-one memorial scholarships with a principal of one thousand dollars each were endowed as follows:

The Cyrenius Beers Scholarship by Miss Julia Beers, the J. S. Bonsall Scholarship by a bequest of Mrs. Susan R. Bonsall, the Albert Dod Brown Scholarship by Mrs. Susan D. Brown, the Grace Newcombe Denning Scholarship by Mrs. William Moir ($1,500), the Finley and Breese Scholarships by a bequest of Samuel F. B. Morse, the Elizabeth Musgrave Giger Scholarship by Prof. George M. Giger, D.D., the Charles Dickinson Hamill Scholarship by Samuel M. Hamill, D.D., the Matthew B. Hope Scholarship by the Trustees of the College of New Jersey as an acknowledgment of the services of Professor Hope in raising an endowment of over one hundred thousand dollars, the Jeremiah D. Lalor Scholarship by a friend, the Harvey Lindsley Scholarship by Mrs. Emeline Coney Lindsley, the John C. D. Matthews Scholarship by Mrs. Mary R. Matthews, the Newark Scholarship by the will of Henry Rogers, the Ezra Nye Scholarship by F. Wolcott Jackson, the John Joseph Rankin Scholarship by William Rankin, the Laurance Field Stevens Scholarship by Herbert B. Stevens, the Nathaniel W. Townsend Scholarship by Mrs. Daniel Haines, the William Campbell Truesdell Scholarship by Warren N. Truesdell, the Van Sinderen Scholarship by Mrs. and Miss Van Sinderen, the Robert Voorhees Scholarship by Mrs. Susan V. Clark, and the Gertrude N. Woodhull scholarship by Dr. John N. Woodhull.

In 1913 a bequest of one thousand dollars was received from the Estate of Mrs. Mary Hale Chamberlain to endow

the Hale Scholarship in memory of Titus Hale and Mary H. Hale, his wife.

In 1903 the Trustees decided to grant remission of tuition to applicants for scholarships who were candidates for the degree of Bachelor of Arts in accordance with the plan described in the section entitled Remission of Tuition; and to use an amount approximating the income from scholarships founded prior to 1903 for the creation of forty University Scholarships to be awarded in the manner described in the section entitled University Scholarships. In 1909 the privileges of remission of tuition and University Scholarships were extended to candidates for the degree of Bachelor of Letters or Bachelor of Science.

UNIVERSITY SCHOLARSHIPS

From the income derived from scholarships founded prior to 1903 forty University Scholarships have been established: ten "A" Scholarships of the annual value of one hundred and seventy-five dollars each, and thirty "B" Scholarships of the annual value of one hundred and fifty dollars each. During the summer these scholarships will be awarded for the first term to members of the senior, junior and sophomore classes who are candidates for the degree of Bachelor of Arts, Bachelor of Letters, or Bachelor of Science, and who have previously received remission of tuition, in accordance with the following rules:

(*a*) The ten "A" scholarships will be awarded to those students whose standing during the previous year was in the first general group. If more than ten students are eligible, award will be made according to seniority of class.

(*b*) The thirty "B" scholarships will be awarded to those students whose standing during the previous year was in the second general group. If more than thirty students are eligible, award will be made according to

seniority of class, except that students eligible for "A" scholarships shall take preference over all others.

University Scholarships are awarded in all cases for one term and subject to the following conditions:

I. The holder must be regular in attendance at his college exercises and free from serious discipline.

II. His general group, as shown by his latest semi-annual report, must not be below that in which he stood when the scholarship was awarded to him.

III. His college bill for one term for board, room rent, light, and heat must not exceed one hundred and seventy-five dollars.

The holder of a University Scholarship who has fulfilled these conditions during the first term of a college year will receive the scholarship for the second term of that year without further action on his part.

ENDOWED SCHOLARSHIPS

The endowed scholarships described in the following list may be assigned to students in any undergraduate department of the University unless restricted by the donor to some particular department or departments. The annual stipend of each scholarship at present is one hundred and fifteen dollars unless another amount is stated. It is customary to assign these scholarships, when they become vacant, to undergraduates who have been members of the University for at least one year, and who are considered most worthy to receive the benefit.

Application for endowed scholarships should be made to the Secretary of the University, Princeton, New Jersey.

THE ELIZABETH VAN CLEVE SCHOLARSHIP: Founded in 1886, by a gift of two thousand dollars, from Hon. Caleb S. Green, of Trenton, N. J., of the Class of 1837. In 1912

the principal was increased to two thousand five hundred dollars by William E. Green, Esq., of the Class of 1902.

The scholarship is ordinarily assigned to a student in the John C. Green School of Science.

THE WISTAR MORRIS WOOD AND CHARLES MORRIS WOOD SCHOLARSHIP: Founded in 1887, by a gift of two thousand dollars from Rev. Charles Wood, D.D., of Washington, D.C. In 1908 the principal was increased to two thousand five hundred dollars by the donor.

This fund shall ordinarily in the first instance be given to a member of the junior class, or in case no member of the junior class answers the conditions, then to any member of the lower classes answering them. Conditions: I. To any foreign missionary's son intending himself to become a foreign missionary; II. To any student proposing to labor in the foreign field; III. To any minister's son studying for the ministry. It shall be understood that the recipient of the fund must possess and keep up superior scholarship.

THE RACHEL LENOX KENNEDY SCHOLARSHIP FUND; with an income of six hundred dollars: Established in 1888 by Miss Rachel Lenox Kennedy, of New York, with a principal of five thousand dollars and increased by the donor in 1890 by a further gift of ten thousand dollars. The income from this fund is used to aid meritorious undergraduates in any department of the University who have maintained high standing in their classes.

THE BUTLER SCHOLARSHIP; with an endowment of two thousand, five hundred dollars. Founded in 1892 by William Allen Butler, Jr., of New York, of the Class of 1876, with a gift of one thousand dollars, which has since been increased to two thousand, five hundred dollars.

THE MCCORMICK SCHOLARSHIP; a gift of two thousand dollars: Founded in 1894 by Mrs. Cyrus Hall McCormick, of Chicago. The annual stipend is eighty dollars.

THE WALLACE SCHOLARSHIPS; (two with an income of one hundred and twenty-five dollars each): In 1898 Mrs. R. H. Allen and Miss Wallace, of Newark, N. J., gave five thousand dollars to found two scholarships in memory of their father, William C. Wallace, of the Class of 1823, for the benefit of needy students.

THE JOHN LINN PATTON SCHOLARSHIP: Founded in 1903, with a principal of two thousand five hundred dollars, by Mr. and Mrs. William A. Patton of Philadelphia, in memory of their son, John Linn Patton of the Class of 1903.

THE MAHON LONG SCHOLARSHIP: Founded in 1904 by Rev. George Wells Ely of Columbia, Lancaster County, Pa., by a gift of one thousand two hundred and fifty dollars and real estate in Minneapolis, Minn., and Jersey City, N. J., valued at eight thousand seven hundred and fifty dollars.

This scholarship is open to undergraduates, members of either the Academic or Scientific Department, and is intended to be given during the entire course to the same student, although appointments or reappointments may be changed by the person having the power, in his discretion. The donor may, during his life, designate the beneficiary, but in case he should not do so on or before October first of each year, then the President of the University shall designate the beneficiary, selecting a regularly matriculated candidate for a degree, who, in his judgment, is a young man of limited means, of worthy character and capacity and who gives promise of a useful life. The net income from this scholarship shall be used by the beneficiary for tuition and other necessary expenses but no more than

four hundred dollars shall be paid to any one beneficiary annually; whatever excess income there may be to accrue to the benefit of the fund.

THE JOHN H. CONVERSE AND JOHN W. CONVERSE SCHOLARSHIPS (two, with an income of one hundred and twenty-five dollars each): Founded in 1904 by the late John H. Converse, with a principal of five thousand dollars. The privileges of these scholarships are to be extended by the Faculty to students looking forward to a seminary course and the Christian Ministry, the Presbyterian Ministry preferred.

THE ROBERT STOCKTON PYNE SCHOLARSHIP: Founded in 1904, with a principal of two thousand five hundred dollars, by Mrs. Moses Taylor Pyne, of Princeton, in memory of her son, Robert Stockton Pyne.

THE FREDERICK WOLCOTT JACKSON SCHOLARSHIP: Founded in 1905, by a gift of two thousand five hundred dollars from Philip N. Jackson, of Newark, N. J., of the Class of 1881.

THE ANDREW WHITE GREEN SCHOLARSHIP; with an income of two hundred and fifty dollars: Founded in 1905, with a principal of five thousand dollars, by the late Cornelius C. Cuyler, of the Class of 1879, as executor and sole legatee of Andrew White Green. The income to be used in aiding some needy and deserving student each year through his college course; the student to be designated by the President or Dean.

THE HENRY S. GANSEVOORT SCHOLARSHIP: Founded in 1906, with a principal of two thousand five hundred dollars, by Mrs. Abraham Lansing, of Albany, N. Y., in memory of her brother, Henry S. Gansevoort.

THE CLASS OF 1878 SCHOLARSHIPS: Dr. John S. Sayre, of the Class of 1878, who died in 1899, made Princeton University his residuary legatee. After creating the Fellowship of Applied Chemistry and the Fellowship of Applied Electricity, the will directs "the balance of my estate, if any, to be used for as many as possible endowed scholarships in the Academic (Classical) Department of the University which are to be known as the Class of 1878 Scholarships." At present there are six scholarships of one hundred and twenty dollars each under this endowment.

THE GEORGE BLACK REA SCHOLARSHIP; with a principal of two thousand five hundred dollars: Founded in 1908 by Mr. and Mrs. Samuel Rea, of Bryn Mawr, Pa., in memory of their son, George Black Rea, of the Class of 1904. Preference to be given to a student in the Department of Civil Engineering.

THE ALGERNON BROOKE ROBERTS SCHOLARSHIP, CLASS OF 1896: Founded with the principal of twenty-five hundred dollars in accordance with a bequest to his mother, 1909.

THE DR. ANDREW J. MCCOSH MEMORIAL SCHOLARSHIPS: Founded in 1909 with the principal of ten thousand dollars by the late Mrs. Alexander Maitland in memory of her brother, Andrew J. McCosh, M.D., of the Class of 1877. Preference to be given to students in the senior and junior classes. At present there are two scholarships of one hundred and twenty-five dollars each and two scholarships of one hundred and twenty dollars each under this endowment.

THE JOHN WITHERSPOON SCHOLARSHIP; with an income of one hundred and sixty dollars: Founded in 1909 by the Trustees of the Witherspoon Memorial Association with a gift of four thousand dollars, the unexpended balance of a

fund contributed by patriotic citizens for the purpose of erecting a statue in Washington, D. C., to John Witherspoon.

THE S. STANHOPE ORRIS FUND: Professor S. Stanhope Orris, who died in 1905, bequeathed to Princeton University "the sum of Twenty-five Thousand Dollars ($25,000) as a fund, the annual income of which shall be divided equally among ten needy academic students of good character and ability, of diligence in study, and exemplary behavior. No candidate for the ministry, however, though needy, studious and possessing ability, shall receive help from this fund unless he pledge himself to continue and do continue the study of Greek regularly to the end of the University Course."

THE SUSAN BREESE PACKARD MEMORIAL SCHOLARSHIP AND THE FRANCIS APPLETON PACKARD MEMORIAL SCHOLARSHIP, founded by a bequest of five thousand dollars under the will of Professor William A. Packard, who died in 1909: "The income of these Scholarships to be devoted to paying the tuition fees of students in Princeton University pursuing courses of study of which the Greek and Latin languages and literature shall constitute a substantial part. Students of approved scholarship and character who need this aid, and such only, shall be eligible to receive the same."

THE THOMAS AND LUCY KAYE MEMORIAL SCHOLARSHIPS; two, with an income of ninety dollars each: Founded in 1911 by a bequest of five thousand dollars under the will of John William Kaye of the Class of 1874.

THE WILLIAM ROME GELSTON SCHOLARSHIP; with an income of two hundred and twenty-five dollars: Founded in 1912 with a gift of $5,000 in memory of William R. Gelston, deceased, of the Class of 1901, "the net annual income thereof to be given in each year to such student in the Academic Department of Princeton University regularly

matriculated for a degree, as the President of the University shall consider to be a person of capacity and worthy character, who gives promise of a useful life and is of limited means, such appointee to be designated by said President, and such income shall be used by such appointee, first in the payment of his tuition fees, and the balance shall be used by him in payment of his board and other necessary university expenses."

THE JOHN REID CHRISTIE, JR., SCHOLARSHIP: Endowed in 1913 with the principal of twenty-five hundred dollars, received from the estate of John Reid Christie, Jr., of the Class of 1913, who died during the summer of 1913.

THE NOEL BASSETT SCHOLARSHIP: Founded in 1915 with a gift of twenty-five hundred dollars, by friends of the late Noel Bassett, of the Class of 1911. By the deed of gift, the right to recommend the removal of the incumbent of this scholarship rests with the committee representing the donors, until 1940.

THE PRINCETON CLUB OF CHICAGO UNDERGRADUATE SCHOLARSHIP: Endowed by the Princeton Club of Chicago and open to men in Chicago and upper Illinois. The fund available is six hundred dollars a year for the four years of the undergraduate course the holder being permitted to draw on the amount annually as his needs may require with the understanding that he will sign notes payable at his convenience after completing his course. Awards are made by a committee of the Princeton Club of Chicago.

THE ROCKY MOUNTAIN PRINCETON CLUB SCHOLARSHIP; with a stipend of two hundred and fifty dollars a year: Awarded for the freshman year to the winner of a competition open to students entering from the high schools in the city and county of Denver or other accredited high schools of the territory covered by the Rocky Mountain

Princeton Club. The competition is held and the award is made by the Scholarship Committee of the Rocky Mountain Princeton Club, Denver, Colo.

ENDOWMENT AND ADMINISTRATION OF SCHOLARSHIPS

The following rules for the endowment and administration of scholarships have been adopted by the Trustees:

I. A scholarship available in any undergraduate department may be endowed by the payment to the Treasurer of a sum of not less than twenty-five hundred dollars. Unless otherwise specified by the donor the endowment of a scholarship will be invested with the general funds of the University and the incumbent will receive as an annual stipend the income of the endowment at the prevailing rate of interest.

II. The right to nominate the incumbent of a scholarship shall rest with the donor, if an individual, during his or her lifetime, or if an institution or alumni association, for a period of twenty-five years. At the end of this period or at the death of the donor, the right of nomination shall revert to and rest with the Faculty of the University.

III. All scholarships shall be held subject to such rules as may be adopted from time to time by the Faculty of the University.

FUNDS FOR CANDIDATES FOR THE MINISTRY

THE RICHARDS FUND: A bequest of Mrs. Esther Richards, of New York, amounting to $2,970.32, for the benefit of candidates for the ministry. Received in 1790.

THE LESLIE FUND: A bequest of James Leslie, of New York, of the Class of 1759, amounting to $10,677.49, for "the education of poor and pious youths with a view to the ministry of the Gospel in the Presbyterian Church." Received in 1792.

THE HODGE FUND: A bequest of Hugh Hodge, of Philadelphia, of a house and lot on Market Street, above Second (No. 205) "to be held by the Trustees in trust, to lease out from time to time, and the rents to be applied to the support and education of pious youths for the ministry." Received in 1805.

For application blanks for aid from the funds for candidates for the ministry apply to the Secretary of the University, Princeton, New Jersey.

CHARITABLE FUNDS

THE VAN ARSDALE FUND: A bequest of Robert Van Arsdale, of Newark, N. J., of the Class of 1826, amounting to $3,000, "in trust for promoting charitable instruction in the College of New Jersey, according to the discretion of the Faculty." Received in 1875.

Applications for aid from the Van Arsdale Fund should be made to Professor Howard McClenahan, Dean of the College.

BUREAU OF STUDENT SELF-HELP

The Bureau of Student Self-Help is managed under the direction of the Secretary of the University, for the purpose of providing opportunities for remunerative employment to students who must earn part of their college expenses. All students who are obliged to earn money during their college course are advised to register with this Bureau.

Further information may be obtained from Mr. George McF. Galt, Secretary of the Bureau of Student Self-Help, 48 Mercer St., Princeton, New Jersey.

PART IX

DEGREES AND HONORS, 1914-1915

DEGREES CONFERRED, 1914-1915

DEGREE IN COURSE, CONFERRED OCTOBER 22, 1914

Litt.B.—Ralph Edwin Reed, as of the Class of 1914.

HONORARY DEGREE, CONFERRED JANUARY 14, 1915

LL.D.—John Graver Johnson.

DEGREES IN COURSE, CONFERRED JANUARY 14, 1915

Ph.D.—*Magna cum laude*—James Arthur Muller, A.B., *Princeton University,* 1907. Subject: History. Thesis: "The Early Life of Stephen Gardiner, Bishop of Winchester."

A.M.—William Wiley Hollingsworth, A.B., *Mercer University,* 1910.
Robert McWatty Russell, Jr., A.B., *Westminster College,* 1911.
Charles Miner Stearns, A.B., *Johns Hopkins University,* 1898.

C.E.—Arthur Barber, as of the Class of 1914.

DEGREES IN COURSE, CONFERRED APRIL 8, 1915

A.B.—Oliver Russell Brooks, as of the Class of 1914.
Lewis Annan Hillyer, as of the Class of 1914.
Joseph Fisher Hunter, as of the Class of 1914.
Henry Chace Tatnall, as of the Class of 1914.

Litt.B.—Henry Greenman Canda, as of the Class of 1914.
William John Curtis, Jr., as of the Class of 1914.
Thomas Ralston Long, as of the Class of 1914.
Carl Wordin Messinger, as of the Class of 1914.
James Hugh Rial, as of the Class of 1914.
Jerome Alfred Swineford, as of the Class of 1914.
Guy Robinson, as of the Class of 1914.

HONORARY DEGREES, CONFERRED JUNE 15, 1915

A.M.—John Halliday Denbigh.
Mus.D.—Franz Kneisel.
D.Sc.—Thomas Alva Edison.
L.H.D.—John B. Pine.

LL.D.—George Washington Goethals.
Myron Timothy Herrick.
Richard Vliet Lindabury.
James Alfred Pearce.
Charles Alexander Richmond.
Theodore Newton Vail.

DEGREES IN COURSE, CONFERRED JUNE 15, 1915.

Doctor of Philosophy (*Ph.D.*).....11

Albert Arnold Bennett, A.B., *Brown University,* 1910. Subject: Mathematics. Thesis: "An Algebraic Treatment of The Theorem of Closure."

Wilson Martindale Compton, Ph.B., *Wooster University,* 1911. Subject: Economics. Thesis: "The Prices of Lumber."

Roy Joseph Deferrari, A.B., *Dartmouth College,* 1912. Subject: Classics. Thesis: "The Morphology of The Verb in Lucian."

Walter Brooks Henderson, Ph.B., *Brown University,* 1910. Subject: English. Thesis: "Swinburne and Landor: A Study of The Spiritual Relationship."

Raymond Henry Lacey, A.B., *Syracuse University,* 1905. Subject: Classics. Thesis: "The Equestrian Officials under Trajan and Hadrian: Their Careers, with Notes on Hadrian's Administrative Reforms."

Henry Higgins Lane, Ph.B., *DePauw University,* 1899. Subject: Biology. Thesis: "The Correlation between Structure and Function in the Development of the Special Senses of the White Rat."

Henning Larsen, A.B., *Luther College,* 1908. Subject: English. Thesis: "Wudga: A Study in Germanic Hero Legend."

Horace Hardy Lester, A.B., *University of Minnesota,* 1906. Subject: Physics. Thesis: "The Determination of the Work Function, when an Electron Escapes from the Surface of a Hot Body."

Earl Baldwin Smith, A.B., *Bowdoin College,* 1911. Subject: Art and Archaeology. Thesis: "Early Christian Iconography. A School of Ivory Carvers in Provence."

Keith Kuenzi Smith, A.B., *Northwestern University,* 1910. Subject: Physics. Thesis: "Negative Thermionic Currents from Tungsten."

Cortlandt van Winkle, A.B., *Princeton University,* 1910. Subject: English. Thesis: "Spenser's Epithalamion, Edited with Introduction and Notes."

MASTER OF ARTS (*A.M.*) ON EXAMINATION.....60

Norman Armour, A.B., *Princeton University,* 1909.
James Edward Biggs, A.B., *Austin College,* 1914.
Clifton Osee Blanton, A.B., *Randolph-Macon College,* 1913.
William Edward Block, A.B., *DePauw University,* 1913.
Henry Newpher Bowman, A.B., *Franklin and Marshall College,* 1914.
Robert Raymond Bryan, A.B., *Westminster College,* 1910.
Adam Brown Caldwell, A.B., *Lafayette College,* 1913.
Alan Ditchfield Campbell, A.B., *Rutgers College,* 1912.
Arthur Russell Chaffee, A.B., *Union College,* 1910.
Harold Wilberforce Close, A.B., *Princeton University,* 1910.
John Dickinson, A.B., *Johns Hopkins University,* 1913.
Bruce McNaughton Donaldson, A.B., *Princeton University,* 1913.
Samuel Farley, A.B., *Central University,* 1913.
Uridge Whiffen Ford, A.B., *Colgate University,* 1907.
Henry Kien-tung Fung, A.B., *St. John's University,* 1913.
Nathaniel Howell Furman, B.S., *Princeton University,* 1913.
Ralph Wesley Hand, B.S., *Albright College,* 1908.
James Penrose Harland, A.B., *Princeton University,* 1913.
Irvin Abraham Harvey, A.B., *Roanoke College,* 1914.
David Robert Hawkins, Litt.B., *Princeton University,* 1914.
Newman Warren Hess, A.B., *Albright College,* 1910.
Walter Gaily Hoffmann, A.B., *Indiana University,* 1913.
Benjamin Franklin Howell, B.S., *Princeton University,* 1913.
John Wesley Ischy, A.B., *Lebanon Valley College,* 1912.
Paul Edwin Keen, B.S., *Albright College,* 1912.
Howard Seavoy Leach, A.B., *Wesleyan University,* 1913.
Frederick Henry Martin, A.B., *Bates College,* 1910.
Gilbert Campbell McKown, Litt.B., *Princeton University,* 1914.
Paul Cunningham Melrose, A.B., *Lenox College,* 1912.
William Mitchill Norris, A.B., *Princeton University,* 1910.
Harrison Oaks Parker, A.B., *Wabash College,* 1911.
Reginald Poland, A.B., *Brown University,* 1914.
Mebane Ramsay, A.B., *University of Omaha,* 1913.
Robert Wylie Redpath, A.B., *Geneva College,* 1914.
Albert Starnes Richardson, A.B., *Princeton University,* 1913.
Jesse Hale Riddle, A.B., *Davis-Elkins College,* 1912.
Robert Leonard Riddle, A.B., *Davidson College,* 1911.
Clinton Eugene Risley, B.S., *Colgate University,* 1909.
Hezekiah Cotesworth Ritter, Jr., A.B., *University of South Carolina,* 1910.

Harold Stine Roberts, A.B., *Swarthmore College,* 1912.
Shipp Gillespie Sanders, A.B., *Southwestern University, Texas,* 1909.
Henry Lucian Saville, A.B., *Washington and Lee University,* 1912.
Herbert Leslie Sawyer, A.B., *Bates College,* 1908.
James Frank Sayre, A.B., *Allegheny College,* 1911.
Nevin Henry Schaaf, A.B., *Heidelberg University* (Ohio) 1912.
Ralph Walker Scott, A.B., *Washington and Jefferson College,* 1914.
Thomas Banga Seyster, Litt.B., *Princeton University,* 1912.
Samuel Denny Smith, A.B., *Davidson College,* 1912.
Hurn Joo Song, A.B., *Roanoke College,* 1914.
Charles Alexander Stewart, A.B., *Geneva College,* 1910.
Howard Stanley Stuckey, A.B., *Princeton University,* 1908.
Lewis Neilson Stuckey, A.B., *Southwestern University,* 1914.
Yoeh-liang Tong, A.B., *Yale University,* 1913.
John Franklin Troupe, Ph.B., *Syracuse University,* 1911.
William Le Grand Tucker, A.B., *Randolph-Macon College,* 1911.
Frederic Karl Vogt, *Wagner College,* 1911.
Herbert Theberath Weiskotten, A.B., *Columbia University,* 1914.
John Lauris Blake Williams, A.B., *Princeton University,* 1914.
William Norris Wysham, A.B., *Lafayette College,* 1913.
Paul Thomas Young, A.B., *Occidental College,* 1914.

MASTER OF SCIENCE (*M.S.*) ON EXAMINATION....3

William Miller Bovard, B.S., *University of Pennsylvania,* 1913.
Charles Newman Read, C.E., *Princeton University,* 1908.
Edward Sampson, C.E., *Princeton University,* 1914.

ELECTRICAL ENGINEER (*E.E.*)....5

Gray McWhorter Bryan, C.E., *Princeton University,* 1913.
Carlos Gavias Monteiro,
Warne Phillips Schenck, A.B., *Princeton University,* 1913.
Russell Griffith Thompson, B.S., *University of Missouri,* 1914.
Ricardo Capote Valente.

BACHELOR OF ARTS (*A.B.*).....116

William Coit Allee
Charles Claflin Allen, Jr.
James Baxter Anderson, Jr.
William Campbell Arnold, II
James Addison Baker, Jr.
John Stewart Baker
MacLatimer Baker
Theodore Philip Barber
George Hubert Bonsall, Jr.
William Silvers Borden

Morris Stanley Boyer
Clarence Dietz Brenner
Bailey Brower
Charles Harris Bryant
Charles Pitman Buckley
William Thomas Caldwell
Donald Wallace Carruthers
George Howes Copeland
Albert Burchfield Craig
Kenelm Winslow Crosby
Nicholas Constantine Culolias
Combs Olden Davis
Thomas Dixon, Jr.
William Boulton Dixon
Julius Tyler Andrews Doolittle
William Shaw Doty
Earl Spencer Driver
Charles Eugene Dunn, Jr.
James Michael Dunn
Theodore Emery
Calvin Pardee Erdman
David Fleming, III
Everett G. Frank
Jerome Anderson Quay Franks
Charles Ludwig Froelich
Sterling Galt, Jr.
Wilder Haydn Haines
William Finn Hallstead, II
Charles Roe Hardin
Richard Macy Harris
Adolay George Hausmann
James Christopher Healey
John Marcher Heffron
Edward Ivan Heft
Frank Dudley Hendrickson
Walter Bryant Hervey
William Ehler Heyn
Herbert Laurence Hills
Meston Holmes
John Paxton Hosack
Charles Pinckney Hough, Jr.
George Wallace Jarman, Jr.
Walter Edmonds Johnson
Edwin Evans Jones
Isidor Kaufman
Norman Daniel Keller
Charles Collins Kepler
Reuel Baker Kimball, Jr.
Cedric Herbert Lewis
William Stewart Limond, Jr.
George Bryan Logan, Jr.
William Henderson Long, Jr.
Edward Clark Lukens
John Gormly MacConnell
Ian Douglas Mackenzie
Joseph Chambers McKibbin
Lloyd Otto Magai
Carl Webster Maxfield
Joe Vincent Meigs, III
Frank Lubbock Miller, Jr.
Dudley Holbrook Mills
Philander Knox Motheral
John Livingstone Mott
Thomas Marshall Howe Nimick
Leonard Ober
Mason Olcott
Earl Dodge Osborn
Theodore Dwight Parsons
John Rodman Paul
James Thomas Pearson
Gabriel Altamont Phillips
Thomas Potter
William Prickett
Wilson Kennedy Ray
Wilson Fiske Reynolds
Anthony Vetran Ricca
James Woodruff Richardson
George Frederic Riegel
Stewart McMaster Robinson
William Joseph Roddey, Jr.
Reginald Rowland
William Sener Rusk

Edward Thomas Russell
Henry Lyttleton Savage
Frederick Schweitzer
Harold Rutherford Sheppard
Kenneth Lander Sills
Dudley Cooke Smith
Jean Mason Smith
William Mason Smith, Jr.
William Marvin Spencer
Weir Stewart
Christopher Street
James Jefferson Swofford, Jr.
Edwin Thorp Van Dusen
Frederick Mowbray Velte
George Stuart Vincent
Albert Winston Walters
Louis Mumford Washburn
Charles Edgar Harold Whaler
Thomas Riddick White, Jr.
Robert Williams, Jr.
Roger Brian Williams
York Lowry Wilson
John Allen Wyeth, Jr.

Paul Crerar McPherson, as of the Class of 1914

BACHELOR OF LETTERS (*Litt.*B.).....115

James Austin Adams
Harold Apgar
Stuart Kimball Atha
Joseph Weldon Bailey, Jr.
Lewis Charles Beardslee Baldwin
William Alexander Barber, Jr.
Richard Bard
Ray Alfred Barnard
Winthrop Hilton Battles
Melchior Roch Beltzhoover
Roswell Livingston Blodgett
Alfred Lee Booth
Robert Boyle, Jr.
Thomas Berry Brazelton
John Sanford Brumback
Harold Wolcott Chapin
William Bartlett Chew, Jr.
George Myers Church
Randolph Parker Compton
Samuel Morton Cooley
Leslie Bradford Cooper
Robert Swepson Cowan
Joseph Bryan Cumming, Jr.
Edward Vaughan Dake
Joseph Gurney Deacon
Andre de Coppet
Richard Deming, Jr.
Alexander Dickson Dodd
Kenyon Vanlee Dzung
Walker Mallam Ellis
Gilbert Ellis Faeth
John Miller Train Finney, Jr.
John Harold Fox
Albert Mathias Friend, Jr.
Howard Froelick
John Aethuruld Garvin
Harold Hatch Gile
Frank George Gill
John Temple Graves, Jr.
Orland Smith Greene
Archie Binford Gwathmey, II
Richard Ellis Hall
Edward Hopkins Hammond
James Sidney Hammond
Robert Hampton, Jr.
William Wickham Case Harter
Amidee Tebo Haviland
Barrett Spencer Heddens
Thomas Abram Hendricks
Charles Craig Hilliard
Russell William Holman
Robert Newton Hood
Walter Vaughan Horner
Alfred Everett Houston

Han Liong Huang
Malcolm Humphreys
John Edward Hurst
George Nicholas Ifft, II
Philip Ludwell Jackson
William Larimer Jones, Jr.
Roderick Gilroy Kellett
Amos Mansfield Kidder
James Morley Kline
William Kraus
Frank Paul Leslie
Alfred Bevis Longstreth
Herbert George Lyttle
Pressly Hodge McCance
Brunson Simpson McCutchen
Robert Gennert Macks
Andrew Cunningham McTigue
Linton Satterthwaite Marshall
John Timothy Martin
Albert Ross Meeker
Donald Gibson Mixsell
Langdon Emmons Morris
Donald Myrick
Fitz Eugene Dixon Newbold
Roderick Nourse
William Fulton Orbison
Franklin Lovering Peirce
Richard Babcock Porter
Olin Still Putnam
Charles Richardson, Jr.
Elzey Meacham Roberts
Samuel Charles Rosenberg
Hamilton Henry Salmon, Jr.
Dwight William Salter
Laurence Hunt Sanford
Robert Henry Scannell
Albin Kesley Schoepf
Willard Penfield Seiberling
F. Rolland Severance
James Prestley Shaw
Frederick Gilbert Sikes, Jr.
Eugene Williams Sloane
John McIlhenny Smith
Murray Carleton Smouse
Allan Wilcox Stephens
Andrew Wilson Stewart
Edward Conklin Stover, Jr.
John Dwight Sullivan
Ira Ellsworth Swart
Homer Kirk Sweet
Arthur Raymond Thomas
William R. Thomas, Jr.
Edward Russell Upson
William Leicester Van Leer
Ken Wang
Charles Edward Whitehouse, Jr.
Donald Henderson Williams
Frederick Winant, Jr.
Creighton Lee Wood

Anastasio Carlos Mariano Azoy, Jr., as of the Class of 1914
George Russell Brown, Jr., as of the Class of 1914

BACHELOR OF SCIENCE (*B.S.*).....32

Carlos Rice Adams
James Fairchild Adams
Tharratt Gilbert Best
Francis Malburn Champlin
Grellet Newell Collins
George William Cumbler
James Henry Devereux, Jr.
Frank Kilbourne Dimon
Philip Drinker
Eberhard Lothar Faber
Roland Malone Glenn
Dudley DeMunn Griffin
John Albert Linder
Charles Clifton McCoy
Lay Martin
DeLaskie Miller

Robert Charles Miner
Anthony Saunders Morris, Jr.
August John Mundt
Maurice Pate
Ripley Quinby
Harold Whitaker Rehm
Walter van Braam Roberts
Rudolph Grohe Roll
John Quincy Stewart
Wallace Soule Swart
Matson Terry
Philip Edward Thomas
James Monroe Thorington
George Russell Voorhees
Ernest Bowker Wood
John Andrew Wood, III

CIVIL ENGINEER (*C.E.*).....24

Paul David Adams
Harold Roy Ballin
William Manning Barr
Eugene Stevens Correll
Alan Crawford
Wallace Lafayette de Witt
William Crawford Dunlap
John Heft Faber
Joseph Mickle Fox
George Raymond Hanks
William Harold Harries
Thomas Lefler Horn
Arthur Field Humphrey
Edmund Beeson Jermyn, Jr.
James Coyle Kennedy
Jay Joseph Lyons
Edward Allen MacMillan
Thomas Curtis Ould
Robert Hughes Reeves
Harold Niccolls Samuel
William Gregory Scanlan
Charles Parker Seidler
Wilbur Jay Shenk
Thomas Worthington, Jr.

HONORS CONFERRED, 1914-1915

LATIN SALUTATORY

Charles Claflin Allen, Jr.

VALEDICTORY

Walker Mallam Ellis

FINAL SPECIAL HONORS

Philosophy and Psychology

Highest Honors—Charles Eugene Dunn, Jr., Frederick Schweitzer,
High Honors—Edward Ivan Heft.
Honors—Calvin Pardee Erdman.

History and Politics

Highest Honors—Charles Claflin Allen, Jr., Reginald Rowland, Stewart McMaster Robinson.

High Honors—York Lowry Wilson, Murray Carleton Smouse, Meston Holmes.

Honors—Thomas Abram Hendricks, John McIlhenny Smith, Harold Wolcott Chapin, John Livingstone Mott, Robert Swepson Cowan, Charles Pitman Buckley, Brunson Simpson McCutchen.

Economics and Social Institutions

High Honors—Wilson Fiske Reynolds, Nicholas Constantine Culolias, Philip Ludwell Jackson.

Honors—William Joseph Roddey, Jr., William Shaw Doty.

Art and Archaeology

High Honors—Albert Mathias Friend, Jr.
Honors—Robert Henry Scannell.

Classics

Honors—James Woodruff Richardson.

English

Highest Honors—George Bryan Logan, Jr.

High Honors—Russell William Holman, Isidor Kaufman, Henry Lyttleton Savage, Frederick Mowbray Velte.

Honors—William Wickham Case Harter, Edwin Evans Jones, Gabriel Altamont Phillips, William Prickett, Albin Kesley Schoepf.

Modern Languages

GERMANIC

High Honors—Clarence Dietz Brenner, Sidney Lawrence Levengood.

Honors—Charles Edward Whitehouse, Jr.

ROMANIC

Honors—F. Rolland Severance.

Mathematics and Physics

High Honors—Maurice Pate, Harold Whitaker Rehm, Walter van Braam Roberts, John Quincy Stewart.

Chemistry

Highest Honors—Frank Kilbourne Dimon.

High Honors—Roland Malone Glenn.

Geology

High Honors—Philip Edward Thomas.

Biology

Honors—Charles Clifton McCoy.

Department of Civil Engineering

Honors—Paul David Adams, II, Thomas James Caine, Alan Crawford, John Heft Faber, Edward Allen MacMillan, Harold Niccolls Samuel.

SENIOR PRIZEMEN

George Potts Bible Prizes

William Sener Rusk
Roger Brian Williams

Lynde Debate Prizes

First—John McIlhenny Smith (Clio)
Second—James Jefferson Swofford, Jr. (Whig)
Third—Reginald Rowland (Clio)

BAIRD PRIZES

The Baird Prize—Walker Mallam Ellis
Oratory—Calvin Pardee Erdman
Delivery—Donald Wallace Carruthers
Poetry—Isidor Kaufman
Disputation, First—John McIlhenny Smith
Disputation, Second—Alfred Lee Booth

CLASS OF 1876 MEMORIAL PRIZE FOR DEBATE

John McIlhenny Smith

SPENCER TRASK DEBATE PRIZE

John McIlhenny Smith

FREDERICK BARNARD WHITE PRIZE IN ARCHITECTURE

Robert Henry Scannell

ALEXANDER GUTHRIE MCCOSH PRIZE IN PHILOSOPHY

Charles Eugene Dunn, Jr.
Honorable Mention—Robert Hampton, Jr.

C. O. JOLINE PRIZE IN AMERICAN POLITICAL HISTORY

Samuel Morton Cooley

CLASS OF 1869 PRIZE IN ETHICS

Divided equally between Nicholas Constantine Culolias and Charles Eugene Dunn, Jr.

LYMAN H. ATWATER PRIZE IN POLITICAL SCIENCE

Wilder Haydn Haines

JUNIOR PRIZEMEN

JUNIOR FIRST HONOR PRIZE

Divided equally between

Ethan Davidson Alyea
Boudinot Bakewell Atterbury
Edward Sterling Carter
Elliott Hugh Lee
Donald Clinton Swatland
Charles Sanford Tippetts
Homer Best Winchell

DICKINSON PRIZE

Ethan Davidson Alyea

JUNIOR ORATOR MEDALS

First—Boudinot Bakewell Atterbury (Clio)
Second—Charles Sanford Tippetts (Clio)
Third—Walter Arnold Rukeyser (Whig)
Fourth—Clarence Muir Tappen (Clio)

MACLEAN PRIZE

Boudinot Bakewell Atterbury (Clio)

THOMAS B. WANAMAKER ENGLISH LANGUAGE PRIZE

Charles Francis Nidetzky

CLASS OF 1870 JUNIOR PRIZE IN ENGLISH

Harold Dortic Harvey

CLASS OF 1870 JUNIOR PRIZE IN OLD ENGLISH

Harold Dortic Harvey

MARY CUNNINGHAM HUMPHREYS JUNIOR GERMAN PRIZES

First—Walter Benno Neuburg
Second—Not awarded

R. PERCY ALDEN MEMORIAL PRIZES IN FRENCH

First—Bernard Henry Feustman '17
Second—Philip Molt
Honorable Mention—George Baer Fundenburg

GARRETT PRIZE IN SOUTH AMERICAN HISTORY

Osborne Tatman Biddle

SOCIETY OF COLONIAL WARS PRIZE IN AMERICAN HISTORY

Allan Hunter

SOPHOMORE HONORMEN

BACHELOR OF ARTS COURSE

FIRST GROUP—*High General Honors*

Grover C. Burkert	High School, Trenton, N. J.
Bernard Peyton,	Hill School, Pottstown, Pa.
George R. Stewart, Jr.,	High School, Pasadena, Cal.
Marion L. Turrentine,	DeWitt Clinton High School, New York.
John W. Voorhis,	Townsend Harris Hall, New York.

SECOND GROUP—*General Honors*

David M. Amacker,	East Carroll High School, Lake Providence, La.
William T. Black,	Detroit Eastern High School, Detroit, Michigan
Truman D. Cameron,	Albany Academy, Albany, N. Y.
Stacy G. Fine,	High School, Trenton, N. J.
Ernest H. Forster,	Central High School, Philadelphia, Pa.
William E. Guy,	Hill School, Pottstown, Pa.
William P. Hamilton,	High School, Wilmington, Del.
Stanley E. Harris,	Faculty School, Beirut, Syria.
Robert E. Heimbach,	Perkiomen Seminary, Pennsburg, Pa.
Harold B. Hoskins,	Hill School, Pottstown, Pa.
Milton W. Leggett,	Shady Side Academy, Pittsburgh, Pa.
William L. McLean, Jr.,	Hill School, Pottstown, Pa.
Harold M. March,	Wooster Academy, Wooster, Ohio.
Perry M. Sturges,	Hotchkiss School, Lakeville, Conn.
Edmund Taylor, Jr.,	Memphis University School, Memphis, Tennessee
Joseph Wickes,	University School for Boys, Baltimore, Maryland
Curtis C. Williams, Jr.,	North High School, Columbus, Ohio.

BACHELOR OF LETTERS AND BACHELOR OF SCIENCE COURSE

FIRST GROUP—*High General Honors*

Ralph H. Cutler,	Morristown High School, Morristown, New Jersey
Willard L. De Yoe,	High School, Paterson, N. J.
Sealand W. Landon,	Bordentown Military Institute, Bordentown, N. J.

SECOND GROUP—*General Honors*

Thomas H. Anderson, Jr.,	Phillips Academy, Andover, Mass.
John P. Bishop,	Mercersburg Academy, Mercersburg, Pa.
John B. Black,	Phillips Exeter Academy, Exeter, N. H.
Francis H. Bohlen, Jr.,	St. Paul's School, Concord, N. H.
Dudley R. Burnes,	St. John's Military School, Manlius, N. Y.
Henry S. Culver,	Soldan High School, St. Louis, Mo.
Solomon R. Dresser,	Hill School, Pottstown, Pa.

Robert N. Errington,	High School, Lackawanna, N. Y.
Benjamin F. Etter,	Harrisburg Academy, Harrisburg, Pa.
Bernard H. Feustman,	Collegiate School, New York, N. Y.
Norris D. Jackson,	St. Paul Academy, St. Paul, Minn.
Richard H. Mc Cann,	Central High School, Philadelphia, Pa.
Vincent T. Manchee,	Upper Canada College, Toronto, Can.
George F. Plympton,	High School, Hackensack, N. J.
Stayman L. Reed,	Kiskiminetas Springs School, Saltsburg, Pennsylvania
William Scheerer, Jr.,	Hill School, Pottstown, Pa.
Benjamin S. Walcott,	Taft School, Watertown, Conn.
Harwood A. White,	Hill School, Pottstown, Pa.

CIVIL ENGINEERING COURSE

FIRST GROUP—*High General Honors*

Vernon B. Farr,	High School, Princeton, N. J.

SECOND GROUP—*General Honors*

Thomas D. Joeck,	Newark Academy, Newark, N. J.
Albert Nacht,	Barringer High School, Newark, N. J.

SOPHOMORE PRIZEMEN

CLASS OF 1861 PRIZE IN MATHEMATICS

Vincent Taylor Manchee

Honorable Mention—Sealand Whitney Landon

FRANCIS BIDDLE SOPHOMORE ESSAY PRIZE

John Peale Bishop

CLASS OF 1870 SOPHOMORE ENGLISH PRIZE

John Peale Bishop

Honorable Mention—John Simmons Nicholas, Gordon Van Kirk

STINNECKE PRIZE

Marion Lowell Turrentine

ORANGE ALUMNI ASSOCIATION PRIZE SCHOLARSHIP

Frederick William Nixon

FRESHMAN HONORMEN

BACHELOR OF ARTS COURSE

FIRST GROUP—*High General Honors*

Hawley Quier,	High School for Boys, Reading, Pa.
Henry D. Smyth,	Lawrenceville School, Lawrenceville, N. J.
Shirley D. Southworth,	High School, Allegheny, Pa.

SECOND GROUP—*General Honors*

Lawrence L. Anderson, Jr.,	Male High School, Louisville, Ky.
William R. Beal,	Hill School, Pottstown, Pa.
William B. Cameron,	Gilman Country School, Baltimore, Md.
Lewis B. Flinn,	Friends' School, Wilmington, Del.
Pomeroy J. Herron,	Shady Side Academy, Pittsburgh, Pa.
Elbert R. Jepson,	Drury High School, North Adams, Mass.
George F. Morgan, Jr.,	Cutler School, New York, N. Y.
Wolfgang S. Schwabacher,	Newark Academy, Newark, N. J.
Ray W. Van Tuyl,	West High School, Minneapolis, Minn.
John H. Westcott, Jr.,	Hill School, Pottstown, Pa.
Charles T. White,	Horace Mann School, New York, N. Y.

BACHELOR OF LETTERS AND BACHELOR OF SCIENCE COURSE

FIRST GROUP—*High General Honors*

Lee C. Bradley, Jr.,	Lawrenceville School, Lawrenceville, N.J.
Junius P. Fishburn,	Mercersburg Academy, Mercersburg, Pa.
Roland B. Lutz,	Central High School, Philadelphia, Pa.

SECOND GROUP—*General Honors*

Sinclair W. Armstrong,	Choate School, Wallingford, Conn.
Leo V. Barker,	East Side High School, Denver, Colo.
Leo Blumberg,	Dickinson High School, Jersey City, N. J.
Basil Gordon,	Gilman Country School, Baltimore, Md.
Edmund H. Kerper,	Hill School, Pottstown, Pa.
William C. Lyman,	High School, Lincoln, Neb.
Gerald Mc Keever,	Dickinson High School, Jersey City, N. J.
Walter H. Millinger,	Peabody High School, Pittsburgh, Pa.
Howard C. Porter,	Evanston Township High School, Evanston, Ill.
John M. Rankin,	Mercersburg Academy, Mercersburg, Pa.

Sydney D. Sherrerd,	High School, Haddonfield, N. J.
Frederic E. Springer,	High School, Edwardsville, Ill.
James H. Stewart,	Central High School, Harrisburg, Pa.
Donald Wair,	High School, Laporte, Ind.
Julius L. Wilson,	Manual Training High School, Brooklyn, N. Y.

CIVIL ENGINEERING COURSE

SECOND GROUP—*General Honors*

Samuel G. Frantz,	Lawrenceville School, Lawrenceville, N. J.
Harry A. Sipe,	Shady Side Academy, Pittsburgh, Pa.

FRESHMAN PRIZEMEN

CLASS OF 1883 FRESHMAN ENGLISH PRIZE IN THE SCHOOL OF SCIENCE

Thomas Clark Matthews

ALTON B. PARKER PRIZE FOR FRESHMAN DEBATE

Sydney Donald Sherrerd

PRIZE IN ELECTRICAL ENGINEERING

CHARLES IRA YOUNG MEMORIAL MEDAL

Russell Griffith Thompson

PART X

GRADUATE COUNCIL AND ALUMNI ASSOCIATIONS

THE GRADUATE COUNCIL OF PRINCETON UNIVERSITY

Chairman: Walter E. Hope '01, 49 Wall St., New York, N. Y.
Vice-Chairman: Francis Speir '77, 52 Wall St., New York, N. Y.
Secretary: H. G. Murray '93, Princeton, N. J.

Committee on Finance. Chairman: Francis G. Landon '81, 29 Broadway, New York, N. Y.

Committee on Class Organization. Chairman: A. G. Todd '84, 165 Broadway, New York, N. Y.

Committee on Schools. Chairman: V. L. Collins '92, Princeton, New Jersey.

Committee on Publicity. Chairman: C. W. Halsey '98, 842 Broadway, New York, N. Y.

Committee on Undergraduate Activities. Chairman: Albridge C. Smith '03, 24 Broad St., New York, N. Y.

Committee on Alumni Associations. Chairman: Gordon S. Rentschler '07, Hamilton, Ohio.

District Representatives:

Frank H. Lord '79, University Club, Seattle, Wash.
N. Booth Tarkington '93, 1100 Penn Ave., Indianapolis, Ind.
Charles L. Hamilton '95, 815 Liberty Ave., Pittsburgh, Pa.
John Stuart '00, Railway Exchange Bldg., Chicago, Ill.
Thomas S. McPheeters '03, Rialto Bldg., St. Louis, Mo.

Class Representatives:

'81 W. T. Vlymen, Hempstead, N. Y.
'82 John Larkin, 44 Wall St., New York, N. Y.
'83 Frank C. Roberts, Real Estate Trust Bldg., Philadelphia, Pa.
'84 A. G. Todd, 165 Broadway, New York, N. Y.
'85 J. Woods Brown, 1510 Walnut St., Philadelphia, Pa.
'86 W. F. Timlow, Thorndale, Pa.
'87 Hon. John W. Queen, 15 Exchange Place, Jersey City, N. J.
'88 Dr. B. VanD. Hedges, 518 Watchung Ave., Plainfield, N. J.
'89 Henry C. Irons, 101 Park Ave., New York, N. Y.
'90 John I. Bright, 1701 Chestnut St., Philadelphia, Pa.
'91 Glenn F. McKinney, 52 William St., New York, N. Y.

'92 V. L. Collins, Princeton, N. J.
'93 H. G. Murray, Princeton, N. J.
'94 Malcolm Lloyd, Jr., 328 Chestnut St., Philadelphia, Pa.
'95 Dickson Q. Brown, 11 Broadway, New York, N. Y.
'96 Dr. Charles Browne, Princeton, N. J.
'97 A. A. Gulick, 165 Broadway, New York, N. Y.
'98 C. W. Halsey, 842 Broadway, New York, N. Y.
'99 J. H. Harrison, 810 Broad St., Newark, N. J.
'00 F P. King, 32 Nassau St., New York, N. Y.
'01 W. E. Hope, 49 Wall St., New York, N. Y.
'02 Charles A. Cass, 200 Fifth Ave., New York, N. Y.
'03 Albridge C. Smith, Jr., 24 Broad St., New York, N. Y.
'04 Howard H. Henry, Fort Washington, Pa.
'05 Coleman P. Brown, Devon, Pa.
'06 O. DeG. Vanderbilt, Jr., Locust Valley, Long Island, N. Y.
'07 Gordon S. Rentschler, Hamilton, Ohio.
'08 A. C. Studer, Jr., Montclair, N. J.
'09 Harry G. Treadwell, 132 W. 183d St., New York, N. Y.
'10 Lyman C. Butler, 30 E. 72d St., New York, N. Y.
'11 Andrew P. Monroe, Mt. Airy, Pa.
'12 Joseph N. Ewing, Bryn Mawr, Pa.
'13 R. B. Thomas, Jr., 259 Broadway, Flushing, N. Y.
'14 John Milton Colt, Citizens Union, 41 Park Row, New York, N. Y.
'15 Donald C. Myrick, Bowdoin St., Springfield, Mass.

Members at Large:
'77 Francis Speir, 52 Wall St., New York, N. Y.
'78 W. W. Lawrence, 111 Broadway, New York, N. Y.
'79 D. M. Barringer, Bullitt Bldg., Philadelphia, Pa.
'81 Francis G. Landon, 29 Broadway, New York, N. Y.
'87 A. H. Larkin, 54 Wall St., New York, N. Y.
'87 W. S. Arbuthnot, 801 Penn Ave., Pittsburgh, Pa.
'89 P. A. Rollins, 32 Nassau St., New York, N. Y.
'91 L. C. Woods, Frick Bldg., Pittsburgh, Pa.
'92 George W. Burleigh, 52 William St., New York, N. Y.
'93 George C. Fraser, 20 Exchange Place, New York, N. Y.
'94 James E. Bathgate, Jr., care of John Darling & Co., 456 4th Ave., New York, N. Y.
'95 Andrew C. Imbrie, 320 Broadway, New York, N. Y.
'98 H. C. Potter, Jr., 605 Chestnut St., Philadelphia, Pa.
'03 R. C. McNamara, 623 S. Wabash Ave., Chicago, Ill.
'03 C. H. Higgins, 30 Church St., New York, N. Y.

GRADUATE COUNCIL FACULTY CONFERENCE COMMITTEES

Economics and Social Institutions: George C. Fraser '93, *Chairman;* Adrian H. Larkin '87, G. F. McKinney '91.

Classics: Arthur H. Scribner '81, *Chairman;* Philip A. Rollins '89, R. C. McNamara '03, Frank A. Vanderlip, Paul D. Cravath.

History and Politics: Frederick P. King '00, *Chairman;* A. G. Todd '84, C. W. Halsey '98.

Astronomy: John Larkin '82, *Chairman;* A. A. Gulick '97, A. D. Russell.

Geology and Palaeontology: Phillip A. Rollins '89, *Chairman;* Francis Speir '77.

Civil Engineering: F. C. Roberts '83, *Chairman;* C. H. Higgins '03, H. C. Irons '89.

ALUMNI ASSOCIATIONS

WESTERN ASSOCIATION OF PRINCETON CLUBS
Secretary, Alfred T. Carton, Esq., 1905, 76 West Monroe St., Chicago, Ill.

PRINCETON ENGINEERING ASSOCIATION
Secretary, Charles H. Higgins, Esq., 1903, 30 Church St., New York, N. Y.

ARKANSAS

PRINCETON ALUMNI ASSOCIATION OF ARKANSAS
Secretary, Dr. Homer Scott, 1903, 1010 Louisiana Ave., Little Rock, Ark.

CALIFORNIA

PRINCETON CLUB OF SOUTHERN CALIFORNIA
Secretary, H. T. Muzzy, Esq., 1904, 611 Security Bldg., Los Angeles, Cal.

PRINCETON ALUMNI ASSOCIATION OF NORTHERN CALIFORNIA AND NEVADA
Secretary, James A. Mackenzie, Esq., '99, 523 Balboa Bldg., San Francisco, Cal.

COLORADO

ROCKY MOUNTAIN PRINCETON CLUB
Secretary, L. R. Kendrick, Esq., 1910, 801 Sixteenth St., Denver, Colorado.

DELAWARE

PRINCETON ALUMNI ASSOCIATION OF DELAWARE
Secretary, John F. Neary, Esq., 1900, duPont Bldg., Wilmington, Delaware.

DISTRICT OF COLUMBIA

PRINCETON ALUMNI ASSOCIATION OF THE DISTRICT OF COLUMBIA
Secretary, Walter G. Dunlop, Esq., 1909, 1231 Twentieth St., Washington, D. C.

IDAHO

PRINCETON ALUMNI ASSOCIATION OF IDAHO

Secretary, P. B. Carter, Esq., 1905, 310 Boise City National Bank Bldg., Boise City, Idaho.

ILLINOIS

PRINCETON CLUB OF CHICAGO

Secretary, William S. Warfield III, Esq., 1910, 1400 Fort Dearborn Bldg., Chicago, Ill.

INDIANA

PRINCETON ALUMNI ASSOCIATION OF INDIANA

Secretary, Garvin M. Brown, Esq., 1908, care of Indianapolis Stove Co., Roosevelt Ave. and Columbia St., Indianapolis, Ind.

IOWA

PRINCETON CLUB OF CEDAR RAPIDS

Secretary, Arthur Poe, Esq., 1900, care of American Cereal Co., Cedar Rapids, Iowa.

KENTUCKY

PRINCETON ALUMNI ASSOCIATION OF LOUISVILLE

Secretary, William Hoke Camp, Esq., 1907, 546½ S. Fourth Ave., Louisville, Ky.

MARYLAND

PRINCETON ALUMNI ASSOCIATION OF MARYLAND

Secretary, Horatio W. Turner, Esq., 1909, 1214 Garrett Building, Baltimore, Md.

MASSACHUSETTS

PRINCETON ALUMNI ASSOCIATION OF NEW ENGLAND

Secretary, Francis L. Coolidge, Esq., '84, 166 Devonshire St., Room 31, Boston, Mass.

MICHIGAN

PRINCETON ALUMNI ASSOCIATION OF MICHIGAN

Secretary, Russell E. Dexter, Esq., '99, Ford Building, Detroit, Mich.

MINNESOTA

PRINCETON ALUMNI ASSOCIATION OF THE NORTHWEST
Secretary, Frank P. Leslie, Esq., 1914, care of John Leslie Paper Co., Third Ave., So., and Fifth St., Minneapolis, Minn.

MISSOURI

PRINCETON CLUB OF KANSAS CITY
Secretary, John C. Long, Esq., 1903, 3332 Summit St., Kansas City, Mo.

PRINCETON CLUB OF ST. LOUIS
Secretary, John S. Lionberger, Esq., 1911, Security Bldg., St. Louis, Mo.

NEBRASKA

PRINCETON ALUMNI ASSOCIATION OF NEBRASKA
Secretary, Arthur R. Wells, Esq., '95, 524 Omaha National Bank Bldg., Omaha, Neb.

NEW JERSEY

PRINCETON ALUMNI ASSOCIATION OF NORTHERN NEW JERSEY
Secretary, Augustine M. Hopper, Esq., '97, Hillside Ave., Englewood, N. J.

PRINCETON ALUMNI ASSOCIATION OF HUDSON COUNTY, N. J.
Secretary, Otto F. Seggel, Esq., 1903, 42 Lincoln St., Jersey City, N. J.

PRINCETON ALUMNI ASSOCIATION OF MONTCLAIR AND VICINITY
Secretary, Alfred E. Vondermuhll, Esq., 1901, 10 Harrison St., Montclair, N. J.

PRINCETON CLUB OF NEWARK
Secretary, Harold H. Ward, Esq., 1910, 1088 Broad St., Newark, New Jersey.

PRINCETON ALUMNI FEDERATION OF NEW JERSEY
Secretary, Howard Carter, Esq., 1901, 100 Broadway, New York, New York.

PRINCETON ALUMNI ASSOCIATION OF THE ORANGES
Secretary, Franklin W. Fort, Esq., 1901, 17 Carleton St., East Orange, N. J.

PRINCETON ALUMNI ASSOCIATION OF PASSAIC COUNTY
Secretary, Arthur H. Craig, Esq., 1911, 24 Passaic St., Ridgewood, N. J.

PRINCETON CLUB OF PLAINFIELD
Secretary, Albert D. Beers, Esq., 1907, 734 Watchung Ave., Plainfield, N. J.

PRINCETON CLUB OF TRENTON
Secretary, Kenneth H. Lanning, Esq., 1908, Mechanics Bank Bldg., Trenton, N. J.

NEW YORK

PRINCETON ALUMNI ASSOCIATION OF NORTHERN NEW YORK
Secretary, Edward E. Rankin, Esq., 1909, Cherry Hill, Albany, N. Y.

PRINCETON ALUMNI ASSOCIATION OF LONG ISLAND
Secretary, Christopher D. Robert, Esq., 1904, 261 Hicks St., Brooklyn, N. Y.

PRINCETON CLUB OF BUFFALO
Secretary, Morey C. Bartholomew, Esq., 1907, 1102 Prudential Bldg., Buffalo, N. Y.

PRINCETON CLUB OF NEW YORK
Secretary, Samuel J. Reid, Jr., Esq., 1906, 121 East 21st St., New York, N. Y.

PRINCETON ALUMNI ASSOCIATION OF ROCHESTER, N. Y., AND VICINITY
Secretary, Martin Herbert Eisenhart, Esq., 1905, 371 Barrington St., Rochester, N. Y.

PRINCETON ALUMNI ASSOCIATION OF CENTRAL NEW YORK
Secretary, Stuart F. Raleigh, Esq., 1911, care of Merrell-Soule Co., Syracuse, N. Y.

OHIO

PRINCETON ALUMNI ASSOCIATION OF CINCINNATI
Secretary, Cecil H. Gamble, Esq., 1905, care of the Procter & Gamble Co., Gwynne Bldg., Cincinnati, Ohio.

PRINCETON ALUMNI ASSOCIATION OF NORTHERN OHIO
Secretary, Robert I. Leitch, Esq., 1907, care of the Paterson-Leitch Co., 936 E. 67th St., Cleveland, Ohio.

PRINCETON ALUMNI ASSOCIATION OF TOLEDO
Secretary, Dr. William G. Dice, '93, 240 Michigan St., Toledo, Ohio.

PENNSYLVANIA

PRINCETON ALUMNI ASSOCIATION OF ERIE
Secretary, Samuel L. Gilson, Esq., 1908, 614 W. 8th St., Erie, Pa.

CENTRAL PENNSYLVANIA ALUMNI ASSOCIATION OF PRINCETON UNIVERSITY
Secretary, W. H. Musser, Esq., '96, 215 N. Second St., Harrisburg, Pa.

PRINCETON CLUB OF PHILADELPHIA
Secretary, Walter W. N. Righter, Esq., 1906, 1223 Locust St., Philadelphia, Pa.

PRINCETON ALUMNI ASSOCIATION OF WESTERN PENNSYLVANIA
Secretary, Robert D. Christie, Esq., 1908, Union Bank Bldg., Pittsburgh, Pa.

PRINCETON ALUMNI ASSOCIATION OF NORTHEASTERN PENNSYLVANIA
Secretary, Gilbert S. McClintock, Esq., 1908, 34 South River St., Wilkes-Barre, Pa.

TENNESSEE

PRINCETON ALUMNI ASSOCIATION OF TENNESSEE
Secretary, Walter H. Watkins, Esq., 1900, Hamilton National Bank Bldg., Chattanooga, Tenn.

TEXAS

THE BORDER ASSOCIATION
Secretary, Vance Stewart, Esq., 1905, American Bank Bldg., El Paso, Texas.

PRINCETON ALUMNI ASSOCIATION OF TEXAS
Secretary, Charles C. Cresson, Jr., Esq., '95, Alamo Bank Bldg., San Antonio, Texas.

UTAH

INTER-MOUNTAIN PRINCETON ASSOCIATION
Secretary, Renwick S. McNiece, Esq., 1907, 1136 Blaine Ave., Salt Lake City, Utah.

WASHINGTON

PRINCETON CLUB OF SEATTLE

Secretary, Nicholas F. Jahn, Esq., 1909, Pioneer Bldg., Seattle, Washington.

INDIA

PRINCETON ALUMNI ASSOCIATION OF INDIA

Secretary, C. D. Thompson, Jr., Esq., 1905, Princeton Hall, Christian College, Allahabad, India.

PART XI

LISTS OF STUDENTS, DIRECTORY AND INDEX

STUDENTS OF THE UNIVERSITY

STUDENTS IN THE GRADUATE SCHOOL

FELLOWS

Beesley, Thomas Quinn, Chicago, Ill., 73 G C
Litt.B., Princeton University, 1912.
A.M., Loyola University, 1913.
Class of 1883 Fellow in English.

Brigham, Carl Campbell, Galt, Ontario, Canada, 14 B, G C
Litt.B., Princeton University, 1912.
A.M., Princeton University, 1913.
Charlotte Elizabeth Procter Fellow.

Buddington, Arthur Francis, West Mystic, Conn., 1 B, G C
Ph.B., Brown University, 1912.
M.Sc., Brown University, 1913.
Class of 1883 Fellow in Geology.

Carothers, Neil, Princeton, N. J., 102 G C
A.B., University of Arkansas, 1905.
Oxford University, 1907.
South East Club University Fellow in Social Science.

Chapman, Albert Kinkade, Marysville, Ohio, 144 G C
A.B., Ohio State University, 1912.
A.M., Ohio State University, 1913.
Charlotte Elizabeth Procter Fellow.

Cochran, Todd Dresser, Johnstown, Pa., 103 G C
A.B., Princeton University, 1911.
A.M., Princeton University, 1915.
Boudinot Fellow in History.

Cockfield, William Egbert, Montreal, Canada, 156 G C
A.B., McGill University, 1913.
B.Sc., McGill University, 1914.
M.Sc., McGill University, 1915.
Fellow in Geology.

Coffin, Philip Littlejohn, Bay Shore, N. Y., 122 G C
A.B., Princeton University, 1913.
A.M., Princeton University, 1914.
Charlotte Elizabeth Procter Fellow.

Compton, Arthur Holly, Wooster, Ohio, 146 G C
B.S., Wooster University, 1913.
A.M., Princeton University, 1914.
Porter Ogden Jacobus Fellow.

Cumberland, William Wilson, Los Angeles, Cal., 22 G C
A.B., Occidental College, 1912.
A.M., Columbia University, 1913.
Charlotte Elizabeth Procter Fellow.

Cumming, Charles Linnaeus, Kilsby, England, 154 G C
B.A., University of Oxford, 1910.
B.Sc., McGill University, 1912.
M.Sc., McGill University, 1913.
Charlotte Elizabeth Procter Fellow.

Dewald, Ernest Theodore, New Brunswick, N. J., 54 G C
A.B., Rutgers College, 1911.
A.M., Princeton University, 1914.
Fellow in Art and Archaeology.

Dickinson, John, Baltimore, Md., 15 B, G C
A.B., Johns Hopkins University, 1913.
A.M., Princeton University, 1915.
Gordon MacDonald Fellow.

Dittmer, William Anthony, Scottville, Mich., 104 G C
Concordia College, 1910.
A.M., Washington University, 1914.
John Harding Page Fellow in Classics.

Eastman, Albert Sherman, Princeton, N. J., 44 Mercer St.
B.S., University of Vermont, 1905.
M.S., University of Vermont, 1911.
Harvard Fellow in Chemistry.

Gilman, Ray Edwin, Leavenworth, Kan., 23 Madison St.
A.B., University of Kansas, 1911.
Fellow in Mathematics.

Godwin, Blake-More, Clinton, Mo., 12 G C
A.B., University of Missouri, 1915.
Fellow in Art and Archaeology.

Gould, Harley Nathan, West Springfield, Pa., 101 G C
A.B., Allegheny College, 1910.
A.M., Princeton University, 1914.
Francis Hinton Maule Fellow in Biology.

Hamil, Clayton Baird, Blenheim, Ont., Can. 1 B, G C
A.B., University of Toronto, 1914.
A.M., University of Toronto, 1915.
Fellow in Geology.

Harland, James Penrose, Wenonah, N. J., 11 B, G C
A.B., Princeton University, 1913.
A.M., Princeton University, 1915.
Fellow in Classics.

Harrison, John DeHart, Norristown, Pa., 142 G C
A.B., Princeton University, 1912.
A.M., Princeton University, 1913.
Fellow in Classics.

Hendel, Charles William, Jr., Reading, Pa., 76 G C
Litt.B., Princeton University, 1913.
Fellow in Philosophy.

Howard, Stanley Edwin, Princeton, N. J., 230 Nassau St.
A.B., Bates College, 1910.
A.M., Princeton University, 1913.
Fellow in Economics.

Jones, Brewster Hawkins, Belleville, N. J., 4 A, G C
A.B., Wesleyan University, 1914.
A.M., Wesleyan University, 1915.
Fellow in Classics.

Kaufman, Isidor, New York, N. Y., 41 Park Pl.
A.B., Princeton University, 1915.
Class of 1873 Fellow in English.

Kent, Henry Thomas, Jr., Clifton Heights, Pa., 33 G C
A.B., Cornell University, 1908.
Fellow in Economics.

Knott, Joseph Proctor, Jr., Lebanon, Ky., 2 A, G C
A.B., Princeton University, 1913.
A.M., Princeton University, 1914.
Boudinot Fellow in Modern Languages.

MacMorland, Edward Elliott, Kansas City, Mo., 52 G C
A.B., University of Missouri, 1914.
A.M., University of Missouri, 1915.
Class of 1877 Fellow in Biology.

Martin, Frederick Henry, York Village, Maine, 52 Jefferson Road
A.B., Bates College, 1910.
A.M., Princeton University, 1915.
Fellow in Chemistry.

Nyberg, Joseph Antonius, Chicago, Ill., 71 G C
B.S., University of Chicago, 1910.
M.S., University of Chicago, 1911.
J. S. K. Fellow in Mathematics.

Reagan, Franklin Pearce, Tipton, Ind., 1 A, G C
A.B., Indiana University, 1913.
Charlotte Elizabeth Procter Fellow.

Roll, Rudolph Grohe, Trenton, N. J., 52 G C
B.S., Princeton University, 1915.
Sayre Fellow in Applied Chemistry.

Schweitzer, Frederick, Philadelphia, Pa., 94 G C
A.B., Princeton University, 1915.
Chancellor Green Fellow in Mental Science.

Seibert, Frank Meyers, Berlin, Pa., 14 C, G C
B.S., Pennsylvania State College, 1910.
Charlotte Elizabeth Procter Fellow.

Shafer, Samuel Robert, Hagerstown, Md., 62 G C
A.B., Princeton University, 1912.
Charles Scribner University Fellow in English Literature.

Swift, Emerson Howland, New York, N. Y., 81 G C
A.B., Williams College, 1912.
Fellow in Classics.

Vinacke, Harold Monk, Proctor, Col., 15 A, G C
A.B., University of Denver, 1914.
Fellow in History and Politics.

Waterman, Alan Tower, Northampton, Mass., 148 G C
A.B., Princeton University, 1913.
A.M., Princeton University, 1914.
Class of 1860 Fellow in Experimental Science.

Whipple, Thomas King, Kansas City, Mo., 92 G C
A.B., Princeton University, 1913.
Charlotte Elizabeth Procter Fellow.

Wood, Frank Edwin, Wamego, Kansas, 35 Park Pl.
A.B., Baker University, 1912.
A.M., University of Kansas, 1914.
J. S. K. Fellow in Mathematics.

Wooddy, Carroll Hill, Portland, Oregon, 15 D, G C
A.B., McMinnville College, 1911.
B.A., University of Oxford, 1914.
Charlotte Elizabeth Procter Fellow.

Yewdale, Ralph Bailey, Milwaukee, Wis., 51 G C
A.B., University of Wisconsin, 1914.
A.M., University of Wisconsin, 1915.
Charlotte Elizabeth Procter Fellow.

GRADUATE SCHOLARS

Baruch, Ismar, New London, Conn., 41 University Pl.
Ph.B., Brown University, 1915.
Theodore Cuyler Graduate Scholar.

Bingley, George Althoff, Watertown, N. Y., 8 B, G C
A.B., Princeton University, 1910.
Gardner Graduate Scholar.

Bowman, Henry Newpher, Lancaster, Pa., 2 A, G C
A.B., Franklin and Marshall College, 1914.
A.M., Princeton University, 1915.
Graduate Scholar in Classics.

Dulles, Allen Welsh, Auburn, N. Y., 11 G C
A.B., Princeton University, 1914.
Graduate Scholar in History and Politics.

Riddle, Jesse Hale, Davis, W. Va., 11 C, G C
A.B., Davis-Elkins College, 1912.
A.M., Princeton University, 1915.
Graduate Scholar in Economics.

Stewart, John Quincy, Harrisburg, Pa., 11 A, G C
B.S., Princeton University, 1915.
James W. Queen Graduate Scholar.

Telfer, Robert Stockdale, Bloomington, Ind., 78 G C
A.B., Wesleyan University (Conn.), 1913.
Graduate Scholar in English.

Weber, Shirley Howard, Oakland, Cal., 2 B, G C
A.B., University of California, 1907.
A.M., University of California, 1914.
Graduate Scholar in Classics.

Welsh, Dennis Barrier, Salem, Va., 25 Bank St.
A.B., Roanoke College, 1908.
A.M., Roanoke College, 1909.
Graduate Scholar in English.

GRADUATE STUDENTS

Abshire, James Ernest, Roanoke, Va., 91 G C
A.B., Roanoke College, 1909.
A.M., Princeton University, 1911.

Ackerman, Charles Mellinger, Reading, Pa., 301 H S
A.B., Franklin and Marshall College, 1913.

Anderson, George Glen, Sharon, Pa., 4 B, G C
A.B., Grove City College, 1912.

*Anderson, Walter Edmund, Stillwater, Minn., 35 Park Pl.
A.B., University of Minnesota, 1910.
A.M., Princeton University, 1912.

Arya, S. P. Y. Surendranath, Madras, India, 27 B S
Sadhanashram, City College, Calcutta, India.

Axtell, Robert Stockton, Homestead, Pa., 402 H S
A.B., University of Wooster, 1914.

Bagby, English, Baltimore, Md., 64 G C
A.B., Princeton University, 1913.
A.M., Princeton University, 1914.

Barber, Louis vanValzah, Belleville, Pa., 315 H S
A.B., Park College, 1913.

Barksdale, Randolph Hunter, Richmond, Va., 34 G C
A.B., Hampton Sidney College, 1912.

Barnard, Ray Alfred, Plainsboro, N. J., Plainsboro, N. J.
Litt.B., Princeton University, 1915.

Benade, James Martin, Big Run, Pa., 23 G C
B.S., Grove City College, 1911.

Beury, William Martz, Philadelphia, Pa., 81 G C
A.B., Swarthmore College, 1915.

* Part time assistant.

Biggs, James Edward, Sherman, Texas, 54 G C
A.B., Austin College, 1914.
A.M., Princeton University, 1915.

*Blair, Francis Wesley, Amherst, Mass., 2 B, G C
B.S., Amherst College, 1915.

*Bovard, William Miller, Philadelphia, Pa., 6 A, G C
B.S., University of Pennsylvania, 1913.
M.S., Princeton University, 1915.

Brown, Andrew, Banford, Gilford, Ire., B S
A.B., Muskingum College, 1913.
B.D., Princeton Theological Seminary, 1914.

Brown, Frederick Warner, Chicago Junction, Ohio, 208 H S
Ph.B., Heidelberg University (Ohio), 1914.

Bye, Arthur Edwin, Princeton, N. J., Princeton, N. J.
B.Sc., University of Pennsylvania, 1911.
A.M., Princeton University, 1914.

Caldwell, William Thomas, Pawtucket, R. I., 55 Jefferson Rd.
A.B., Princeton University, 1915.

Cannon, James, III, Blackstone, Va., 103 H S
A.B., Trinity College, 1914.

Capers, Thomas Stacy, Newman, Ga., 22 Dickinson St.
Mercer University, 1915.

*Capps, Julian Huntley, Jacksonville, Ill., 8 B, G C
A.B., Illinois College, 1912.
A.M., Princeton University, 1914.

Carruthers, John Franklin Bruce, Harrisburg, Pa., 32 A S
A.B., Princeton University, 1912.

Centanni, Angelo Maria, Philadelphia, Pa., 46 A S
A.B., Lafayette College, 1913.

Chang, Tso-Shuen, Soochow, China, 3 Madison St.
A.B., State University of Iowa, 1914.
A.M., State University of Iowa, 1915.

Chen, Shiu-Yuen, Canton, China, 172 Nassau St.
A.B., University of Wisconsin, 1915.

Church, Richard Newton Loomis, New York, N. Y., 30 Wiggins St.
A.B., Princeton University, 1914.

* Part time assistant.

*Close, Harold Wilberforce, Princeton, N. J., 6 A, G C
A.B., Princeton University, 1910.
A.M., Princeton University, 1915.

Cloyd, Alva Lee, Salisbury, Mo., 80 Alexander St.
A.B., University of Missouri, 1914.

Coffin, Robert Peter, Brunswick, Me., 21 G C
A.B., Bowdoin College, 1915.

Coleman, Randolph Caskie, Roanoke, Va., 15 C, G C
A.B., Roanoke College, 1915.

Crawford, Lewis William, Cameron Mills, N. Y.,
A.B., Alfred University, 1914. 22 Vandeventer Ave.

Crowell, Norborne Harris, DesMoines, Iowa, 40 Moore St.
A.B., Drake University, 1914.

Davis, Roy Lee, Monticello, Ark., 413 H S
A.B., Erskine College, 1915.

Denit, Leo Alfred, Salem, Va., 15 C, G C
A.B., Roanoke College, 1915.

de Villiers, William Robertson, Hope Town, S. Africa, 35 B S
A.B., Victoria College (S. Africa), 1908.
B.D., University Cape of Good Hope, 1914.

*Dobie, Louis Boyd, Princeton, N. J., 54 Murray Pl.
Ph.B., Kenyon College, 1914.

Eells, Earnest Edward, Worcester, Mass., 203 H S
A.B., Clark University, 1914.

Eppley, Marion, Princeton, N. J., Princeton, N. J.
B.S., Princeton University, 1906.
A.M., Princeton University, 1912.

Fleming, Russell, New Brunswick, N. J., New Brunswick, N. J.
Litt.B., Rutgers College, 1915.

*Fogler, Raymond Henry, West Rockport, Me., 60 University Pl.
B.S., University of Maine, 1915.

Friend, Albert Mathias, Jr., Ogontz, Pa., 53 G C
Litt.B., Princeton University, 1915.

*Furman, Nathaniel Howell, Lawrenceville, N. J., 15 F, G C
B.S., Princeton University, 1913.
A.M., Princeton University, 1915.

Gamble, Clarence James, Pasadena, Calif., 42 G C
Litt.B., Princeton University, 1914.

* Part time assistant.

Gebhard, Henry Edwin, Red Lion, Pa., 317 H S
A.B., Ursinus College, 1914.

Gillis, Edward, Beaumont, Calif., 202 H S
Litt.B., University of California, 1914.

Giraud, Antony Pastor, Guauabacoa, Cuba, 41 G C
B.S., University of Seville (Spain), 1908.

*Gordon, Newell Trimble, Boonton, N. J., 7 C, G C
B.S., Princeton University, 1913.

Hanzsche, William Thomson, Baltimore, Md., 111 H S
A.B., Washington and Lee University, 1913.

*Harding, Earle Atherton, York Harbor, Me., 52 Jefferson Rd.
B.S., Bates College, 1915.

Haring, Malcolm Morrison, Lancaster, Pa., 15 E, G C.
A.B., Franklin and Marshall College, 1915.

Harmon, Ralph Elmer, Clifton, N. Y., Hightstown, N. J.
A.B., University of Rochester, 1907.

Harper, Fred Lee, Cumberland, O., 31 Edwards Pl.
A.B., Muskingum College, 1912.

Hayes, Warren Hiram, Punxsutawney, Pa., 309 H S
A.B., Otterbein University, 1913.
A.B., Dartmouth College, 1908.

Hazen, Edwin Humphrey, Middletown, Conn., 4 B, G C
B.D., Hartford Theological Seminary, 1911.
A.M., Wesleyan University, 1912.

Heft, Edward Ivan, Louisville, Ky., 61 G C
A.B., Princeton University, 1915.

Henderson, Samuel Clarence, Shippingport, Pa., 409 H S
A.B., Grove City College, 1912.

*Hersh, Amos Henry, Lancaster, Pa., 6 B, G C
A.B., Franklin and Marshall College, 1914.
A.M., Franklin and Marshall College, 1915.

Ho, Ping Song, Chekiang, China, 14 Park Pl.
A.B., University of Wisconsin, 1915.

*Honess, Arthur Pharaoh, Angola, Ind., 47 Spring St.
A.B., Oberlin College, 1914.

Hosoi, Tobey Rutei, Kamakura, Japan, 31 B S
Hosei University (Tokyo, Japan), 1911.
Heidelberg University, 1914.

* Part time assistant.

Hsun, Swei, Nanchang, China, 43 Park Pl.
A.B., University of Wisconsin, 1915.

Janvier, Ernest Paxton, Madison, N. J., 315 H S
A.B., Princeton University, 1911.

Keen, Paul Edwin, Wrightsville, Pa. 300 H S
B.S., Albright College, 1912.
A.M., Princeton University, 1915.

Ketchledge, Raymond Anthony, Easton, Pa., 313 H S
A.B., Lafayette College, 1914.

Knight, Lewis Hubert, Tulsa, Okla., 40 B S
A.B., Henry Kendall College, 1914.

La Barron, Robert Francis, Binghamton, N. Y., 126 G C
B.S., Union College, 1913.

*Laughlin, Harry Hamilton, Cold Spring Harbor, L. I., 36 Univ. Pl.
B.S., North Missouri State Normal School, 1910.

Lewis, Charles Henry, Fowler, Calif., 309 H S
A.B., Occidental College, 1913.

Lin, Tien Lan, Hinghwa, China, 29 B S
A.B., Southwestern College, 1914.

Lockert, Charles Lacy, Jr., Clarksville, Tenn., 11 University Pl.
A.B., Southwestern Presbyterian University, 1907.
A.M., Southwestern Presbyterian University, 1909.

McIsaac, Robert Milton, Beaver Falls, Pa., 33 G C
A.B., Geneva College, 1915.

Mackay, Callum Nicholson Miller, Edinburgh, Scotland, B S
A.B., Muskingum College, 1912.
B.D., Princeton Theological Seminary, 1914.

MacKean, James Alexander, Musquodoboit Harbor, N. S., 311 H S
A.B., Dalhousie University, 1905.

McMullen, Alexander Clifford, Appleton, Wis., 24 A S
A.B., Carroll College, 1913.

McNeill, Joseph, Germantown, Pa., 307 H S
A.B., Haverford College, 1915.

Mather, Thomas Bradley, St. Louis, Mo., 21 G C
A.B., Central College (Fayette, Mo.), 1915.

* Part time assistant.

Mautner, Bertram Hirsh, New York, N. Y., 41 University Pl.
Litt.B., Princeton University, 1913.

Mayer, Ferdinand Lathrop, Princeton, N. J., 162 Library Pl.
A.B., Princeton University, 1909.
LL.B., Harvard University, 1913.

Moffett, Clinton Edward, Madison, Ind., 91 G C
A.B., Hanover College, 1912.

Northacker, Howard Arlington, Scranton, Pa., 210 H S
A.B., Albright College, 1912.

Ogiri, Keiki, Okayama, Japan, 110 H S
B.L., Waseda University (Japan), 1908.
B.D., Princeton Theological Seminary, 1915.

Olewiler, Howard Lower, Red Lion, Pa., 207 H S
A.B., Lebanon Valley College, 1914.

Othen, Richard Charles Theodore, Colombo, Ceylon, 307 H S
Richmond College (Ceylon), 1901.
A.M., Princeton University, 1913.
B.D., Princeton Theological Seminary, 1915.

*Perrott, George St., John, Grand Forks, N. D., 63 G C
A.B., University of North Dakota, 1914.
A.M., University of North Dakota, 1915.

Poland, Reginald, Providence, R. I., 112 G C
A.B., Brown University, 1914.
A.M., Princeton University, 1915.

Porter, Arthur Reno, Pulaski, Pa., 21 A S
A.B., Westminster College, 1911.

Pyne, Herbert Rivington, Bernardsville, N. J., "Edgerstoune"
A.B., Princeton University, 1914.

Read, Clement Carrington, Hillsboro, N. C., 93 G C
A.B., Harvard University, 1907.

Reeves, Jacob Walter, Hightstown, N. J., Hightstown, N. J.
B.S., University of Wooster, 1911.
A.M., Princeton University, 1914.

*Reeves, Prentice, Joplin, Mo., 21 Olden St.
A.B., University of Missouri, 1912.
A.M., Princeton University, 1914.

* Part time assistant.

Reinecke, Herman Taudte, Pittsburgh, Pa., 23 A S
A.B., Washington and Jefferson College, 1915.

Renick, Felix, Winchester, Ky., 124 G C
A.B., Centre College, 1915.

*Richardson, Albert Starnes, Murfreesboro, Tenn., 103 G C
A.B., Princeton University, 1913.
A.M., Princeton University, 1915.

Richmond, Harry Walker, Baltimore, Md., 310 H S
A.B., Johns Hopkins University, 1914.

Rodgers, James Orr, Statesville, N. C., 28 Vandeventer Ave.
A.B., Erskine College, 1911.
A.M., Princeton University, 1914.

Sampson, Edward, Philadelphia, Pa., 7 B, G C
C.E., Princeton University, 1914.
M.S., Princeton University, 1915.

Sanders, Shipp Gillespie, Georgetown, Texas, 11 B, G C
A.B., Southwestern University (Texas), 1909.
A.M., Princeton University, 1915.

Saville, Henry Lucien, Lexington, Va., 8 A, G C
A.B., Washington and Lee University, 1912.
A.M., Princeton University, 1915.

Scott, Charles Hodge, Princeton, N. J., 158 Nassau St.
A.B., Princeton University, 1909.

Seel, Edward George, Etna, Pa., 409 H S
A.B., Grove City College, 1912.

Severance, F. Rolland, Willsboro, N. Y., 72 G C
Litt.B., Princeton University, 1915.

*Shaffer, Elmer Lentz, Philadelphia, Pa., 6 B, G C
B.S., Haverford College, 1915.

Shively, James Cole, Fayetteville, Pa. 12 G C
A.B., Princeton University, 1913.

Shultz, Irvin Sturger, Watsontown, Pa., 21 A S
A.B., Grove City College, 1913.

Snyder, Daniel Lester, Levels, W. Va., 57 B S
A.B., Randolph Macon College, 1915.

*Speidel, Carl Caskey, Washington, D. C., 64 Wiggins St.
Ph.B., Lafayette College, 1914.

* Part time assistant.

Stewart, James Kirkpatrick, Wilmington, Del., 31 A S
A.B., Maryville College, 1914.

Stoever, John Lewis, Germantown, Pa., G C
Litt.B., Princeton University, 1912.

Swetland, Mark Wallace, Hightstown, N. J., Hightstown, N. J.
A.B., University of Rochester, 1907.

*Teague, Merwyn Clarence, Pendleton, Ind., 23 G C
A.B., Wabash College, 1914.

Teener, James Woodruff, Cumberland, Ohio, 33 B S
A.B., Muskingum College, 1915.

Thomas, Lowell Jackson, Victor, Col., 14 D, G C
A.B., University of Denver, 1913.
A.M., University of Denver, 1913.

Tomcsanyi, Aladar, Homestead, Pa., 208 H S
A.B., Heidelberg University (Ohio), 1913.

Tuers, Russell Vreeland, Paterson, N. J., 41 University Pl.
B.S., New York University, 1915.

Twinem, Paul DeWitt, Wooster, Ohio, 402 H S
A.B., University of Wooster, 1915.

Van Dyck, David Bevier, Greenville, N. Y., 41 A S
A.B., Rutgers College, 1914.

Weiskotten, Herbert Theberath, Brooklyn, N. Y., 74 G C
A.B., Columbia University, 1914.
A.M., Princeton University, 1915.

*Wester, Reuben Axel, Kansas City, Mo., 35 Park Pl.
A.B., William Jewell College, 1912.
A.M., University of Missouri, 1914.

Williams, Wordsworth Day, Albany, N. Y., 19 Bank St.
A.B., New York State College for Teachers, 1913.

Willson, James Burt, Pittsburgh, Pa., 69 B S
A.B., University of Pittsburgh, 1909.
B.D., Princeton Theological Seminary, 1915.

Wood, Ernest Bowker, Johnson City, N. Y., G C
B.S., Princeton University, 1915.

*Yoe, John Howe, Hartselle, Alabama, 78 G C
B.S., Vanderbilt University, 1913.
M.S., Vanderbilt University, 1914.

* Part time assistant.

Young, Paul Thomas, Los Angeles, Calif., 24 G C
A.B., Occidental College, 1914.
A.M., Princeton University, 1915.

Young, Walter Stewart, Los Angeles, Calif., 22 G C
A.B., Occidental College, 1915.

Fellows	42
Graduate Scholars	9
*Part Time Assistants	21
Other Graduate Students	104
	176

STUDENTS IN THE SCHOOL OF ELECTRICAL ENGINEERING

SECOND YEAR

Cavalcanti, Leonardo Albuquerque, Sao Paulo, Brazil,
16 Vandeventer Ave.

Le Compte, Charles Robbins, Jr., Lakewood, N. J., 15 A, G C
C.E., Princeton University, 1914.

Murray, James Ormsbee, Plainfield, N. J., 24 Madison St.
Litt.B., Princeton University, 1914.

Porter, Harry Frank, Trenton, N. J., 47 University Pl.

Willcox, Dudley, Lawrenceville, N. J., Lawrenceville, N. J.
A.B., Yale University, 1908.

FIRST YEAR

Howell, Lawrence Day, Philadelphia, Pa., 11 G C
Litt.B., Princeton University, 1913.
Orson Desaix Munn Fellow in Electrical Engineering.

McCutchen, Brunson Simpson, Plainfield, N. J., 44 G C
Litt.B., Princeton University, 1915.

Mundt, August John, Trenton, N. J., Trenton, N. J.
B.S., Princeton University, 1915.

Roberts, Walter van Braam, Titusville, Pa., 31 G C
B.S., Princeton University, 1915.
Sayre Fellow in Applied Electricity.

STUDENTS IN THE SCHOOL OF ELECTRICAL ENGINEERING....9

UNDERGRADUATES

SENIOR CLASS, 1916

CANDIDATES FOR THE A.B. DEGREE

Abbett, Leon, Jr.,	New York, N. Y.,	2 W M W
Alexander, Virginius Wilkins,	Pine Bluff, Ark.,	363 C'y
*Alton, William Carol Wilson,	Chicago, Ill.,	63 L
Alyea, Ethan Davidson,	Clifton, N. J.,	24 M D
Armstrong, Hamilton Fish,	New York, N. Y.,	231 C'y
Banigan, Carlton,	Paterson, N. J.,	27 C
Barbour, Fritz Krupp,	New York, N. Y.,	4 A, C
Barr, John McFerran,	Louisville, Ky.,	42 L
Benton, Arthur Ferguson,	Brooklyn, N. Y.,	6 N D
Bischoff, Carl Hauser,	Camden, N. J.,	19 S W
Bowman, Samuel Andrew,	Springfield, Ohio,	262 C'y
Brotemarkle, Robert Archibald,	Salisbury, Md.,	6 N W
Brown, Harold Gilmore,	Elizabeth, N. J.,	4 A, C
Bullock, Benjamin, 3d,	Ardmore, Pa.,	11 '79 H
Burke, William Jay,	Newark, N. J.,	47 University Pl.
Campbell, Ralph Newton,	Pittsburgh, Pa.,	10 N R
Carter, Edward Sterling,	Washington, Conn.,	1 C, H'm
Claire, Verne,	Orange, N. J.,	1 W M W
Crocker, Dana Rumsey,	Williamsport, Pa.,	22 S E
Cross, Harry Carl,	Philadelphia, Pa.,	43 B
Davies, Thurston Jynkins,	Gloucester City, N. J.,	10 S R
Davis, Nathaniel Penistone,	Princeton, N. J.,	23 '79 H
Dawbarn, Robert Holmes,	New York, N. Y.,	101 B
‡Day, Ewing Wilbur, Jr.,	Pittsburgh, Pa.,	304 H'm
‡DeLacy, George Charles, Jr.,	Woodmere, N. Y.,	30 N E
Dell, William Stanley,	Davos, Switzerland,	51 H
Demaree, David Ralph,	Newport, Pa.,	Hill
Diller, Herbert Esbenshade,	Leaman Place, Pa.,	181 L
Dunn, Arthur Charles,	Paterson, N. J.,	2 M D
‡Edgar, Webster LeRoy,	Cazenovia, N. Y.,	142 C'y
Evans, Raymond David,	Pittsburgh, Pa.,	12 N D

* Candidate for degree in February, 1916.
‡ Candidate for degree in February, 1917.

Ferguson, Eric,	Garden City, N. Y.,	34 B
‡Floto, Will Henry,	Wellsville, Ohio.,	17 S M R
Franklin, Benjamin, Jr.,	Germantown, Pa.,	2 W B
Frantz, Angus Macdonald,	Princeton, N. J.,	4 S E
Frontz, Clinton Walter,	Hughesville, Pa.,	5 W M W
Fundenburg, George Baer,	Pittsburgh, Pa.,	7 Park Pl.
Gadebusch, Paul Helmuth,	Summit, N. J.,	101 B
Gates, Moore,	Constantinople, Turkey,	2 W M W
Gilland, Henry Gibbes,	New Bedford, Mass.,	9 E M W
Glover, Laurence Litchfield,	Haddonfield, N. J.,	10 S R
Green, James Sproat, Jr.,	Elizabeth, N. J.,	94 B
Heyl, Robert Chapman, Jr.,	Wynnewood, Pa.,	2 S W B
‡Heyl, William Esher, Jr.,	Wynnewood, Pa.,	70 P
‡Hirschberg, David Scott,	Newburgh, N. Y.,	331 C'y
Hoyt, Jesse,	New Caanan, Conn.,	9 L P
Hudnut, Herbert Beecher,	Youngstown, Ohio,	70 P
Hunter, Allan,	Riverside, Cal.,	2 E M W
Hypes, Samuel Loomis,	Evanston, Ill.,	23 B
Jackson, Arthur Hartt,	New York, N. Y.,	24 H'm
Kelleher, Albert Aloysius,	New York, N. Y.,	110 Nassau St.
Kennedy, David Gregg,	Lansdowne, Pa.,	31 L
Kennedy, Herbert Henry, Jr.,	Chicago, Ill.,	32 C
Kenny, Andrew Trowbridge Hutton,	Detroit, Mich.,	2 S W B
Kiefel, Ernst Philip,	Lamar, Ind.,	32 S E
Knight, Oliver Dudley,	St. Louis, Mo.,	63 '79 H
*Lamarche, Edward Jules,	New York, N. Y.,	64 Nassau St.
Lamberton, Henry McClelland, Jr.,	Winona, Minn.,	30 Mercer St.
Law, Bernard Carter,	St. Davids, Pa.,	11 '79 H
Lloyd-Smith, Wilton,	Elmira, N. Y.,	15 C
McComas, Oliver Parker, Jr.,	Roland Park, Md.,	32 H
Machemer, Paul Adam Gehr,	Tacony, Pa.,	27 S E
McKee, Thomas Parker, Jr.,	Hamilton Square, N. J.,	98 B
McLanahan, John Davidson,	Princeton, N. J.,	7 N W
McWilliams, Clifton Alexander,	Shamokin, Pa.,	20 E W
Martin, Christian Frederick,	Nazareth, Pa.,	20 S E
Massie, Joel White,	Montgomery, Ala.,	12 P
Meier, Elmer George,	Chicago, Ill.,	17 N W
Miller, Neville,	Louisville, Ky.,	33 '79 H
Mitchell, Edwin Knox, Jr.,	Hartford, Conn.,	24 C

* Candidate for degree in February, 1916.
‡ Candidate for degree in February, 1917.

Morgan, John Williams,	New York, N. Y.,	42 B
Mount, Lester,	Princeton, N. J., R. F. D., No. 2	
Neely, John Howard, Jr.,	Mifflintown, Pa.,	111 H
Nidetzky, Charles Francis,	Philadelphia, Pa.,	14 S W
O'Brien-Moore, Ainsworth,	Los Angeles, Cal.,	1 W W
Osborn, William Henry,	Garrison-on-Hudson, N. Y.,	15 C
Payne, Francis Dana,	Erie, Pa.,	138 Nassau St.
Payson, Laurence George,	Englewood, N. J.,	64 Nassau St.
Phraner, Stanley Lansing,	Brooklyn, N. Y.,	13 S W
Potts, Edgar Leroy,	Philadelphia, Pa.,	13 S M R
Raymond, John Marshall, Jr.,	Salem, Mass.,	64 B
Reed, Nelson,	Pittsburgh, Pa.,	31 L
Reynolds, Sanford Cobb,	New Rochelle, N. Y.,	308 H'm
Ritchey, Herbert Dern,	Altoona, Pa.,	122 H
Robinson, Samuel Stewart,	Saltsburg, Pa.,	19 S E
Russell, John, Jr.,	Philadelphia, Pa.,	4 S M R
Scudder, Mason,	St. Louis, Mo.,	63 '79 H
Scudder, Norman Waterbury,	Glastonbury, Conn.,	6 N W
Sellers, Lee West,	Montclair, N. J.,	3 M D
Shoemaker, Samuel Moore, Jr.,	Eccleston, Md.,	31 H
Sikes, Gordon Gowans,	Buffalo, N. Y.,	23 B
*Slee, James Noah,	New York, N. Y.,	40-50 P
Smyth, Charles Phelps,	Princeton, N. J.,	308 H'm
Speers, James Milliken, Jr.,	Montclair, N. J.,	11 S W
Stauffer, Claude Richmond,	Leola, Pa.,	262 C'y
Swatland, Donald Clinton,	Newark, N. J.,	2 E M W
Sweet, Lennig,	Denver, Colo.,	64 Nassau St.
Talley, Allen Williamson,	New York, N. Y.,	82 H
Tappen, Clarence Muir,	Jersey City, N. J.,	36 S E
*Van Dyke, Martin,	Paterson, N. J.,	124 Moore St.
Walton, Loring Baker,	Kansas City, Mo.,	5 A, H
Watt, Donald Beates,	Lancaster, Pa.,	64 Nassau St.
West, William Armstrong,	Beirut, Syria,	11 N W
Williams, Henry Augustus,	Paterson, N. J.,	44 L
Wilson, Edmund, Jr.,	Red Bank, N. J.,	1 B, H'm
Winchell, Homer Best,	Brooklyn, N. Y.,	10 W M W
Woodbridge, Caspar Ligon,	Shanghai, China,	6 S R
Wortendyke, Reynier Jacob, Jr.,	Jersey City, N. J.,	6 M D
Young, Charles Milbank,	New York, N. Y.,	221 C'y

A.B. SENIORS.....109

* Candidate for degree in February, 1916.

CANDIDATES FOR THE LITT.B. DEGREE

Armstrong, James Syng,	Middletown, Conn.,	94 P
*Arthur, Rex Price,	Point Loma, Cal.,	412 C'y
Atterbury, Boudinot Bakewell,	New York, N. Y.,	13 S W
Bailey, Ferdinand Whitall,	Sewickley, Pa.,	21 N E
Baker, John Merrell,	Chicago, Ill.,	90 Nassau St.
Baker, Joseph Dill,	Baltimore, Md.,	3 N D
‡Barber, Laird Howard, Jr.,	Mauch Chunk, Pa.,	64 Nassau St.
‡Beatty, William Hamnett,	Pittsburgh, Pa.,	93 H
Benson, Robert Granger,	Passaic, N. J.,	16 B
Biddle, Osborne Tatman,	Wilmington, Del.,	2 S E
Bird, Emerson Prall,	Paterson, N. J.,	71 B
Bower, Wallace,	Scranton, Pa.,	16 S W
Brown, Lawrence,	Brooklyn, N. Y.,	9 S M R
Buchanan, Edwin Chapman,	Brooklyn, N. Y.,	321 C'y
Bunnell, Milton Joseph,	Jersey City, N. J.,	17 S W
Burford, Wiley Haralson,	Ocala, Fla.,	11 N D
Burns, Robert Williamson,	West Carrollton, Ohio,	19 N E
Butler, Allan Macy,	Yonkers, N. Y.,	42 L
Campbell, Charles Lawton,	Montgomery, Ala.,	18 N W
Carey, Joseph Maull,	Glenside, Pa.,	1 N D
Carpenter, William Irving, Jr.,	Minneapolis, Minn.,	53 H
Chaplin, Robert Tappan,	Washington, D. C.,	18 N W
Cleveland, Robertson Lispenard,	New York, N. Y.,	161 L
*Cookingham, Holt Wilson,	Portland, Ore.,	96 B
Cramer, Kenneth Frank,	Gloversville, N. Y.,	10 W M W
Dancy, Bryan Grimes,	Baltimore, Md.,	12 P
Danenhower, John Willett,	Haddonfield, N. J.,	6 E M W
Dawes, Neil Booker,	Evanston, Ill.,	32 C
Decker, Edward Spaulding,	Minneapolis, Minn.,	24 S E
Deyo, William Hoornbeek,	Napanock, N. Y.,	54 L
‡Dixon, Wyllys,	Flushing, N. Y.,	6 E M W
Dodd, Wilson Farnsworth,	Montclair, N. J.,	4 N R
Douglas, Byrd,	Nashville, Tenn.,	134 H
Dowell, Julian Noyes,	Washington, D. C.,	54 B
*Elliott, Douglas Alexander,	New York, N. Y.,	24 Bank St.
Ellis, Donovan Russell,	Maplewood, N. J.,	172 L
Farrell, Frank Loren,	Pittsburgh, Pa.,	46 Wiggins St.
Fay, Russell Nicholas Brown,	Chicopee Falls, Mass.,	104 B

* Candidate for degree in February, 1916.
‡ Candidate for degree in February, 1917.

Fendrick, Percy Orr,	Mercersburg, Pa.,	211 C'y
Forney, Louis Gerisch,	Cleveland, Ohio,	26 M D
Frank, Harvey Haven,	Harrisburg, Pa.,	Hill
Frederick, Thomas Lothrop,	Buffalo, N. Y.,	172 L
Fritz, George Thompson,	Philadelphia, Pa.,	138 Nassau St.
Furman, Richard Way,	Trenton, N. J.,	1 S M R
‡Gaines, Ludwell Ebersole,	Fayetteville, W. Va.,	312 C'y
Giffin, Paul Ganson,	Orange, N. J.,	5 M D
Gill, Logan Blair,	Overbrook, Pa.,	9 M D
Glick, Frank,	Pittsburgh, Pa.,	Cap & Gown Club
Gordon, Harry Lincoln, Jr.,	Cincinnati, Ohio,	75 H
Gould, Ormond Valentine,	New York, N. Y.,	22 L
Grant, Bethune Morse, III,	Johnstown, N. Y.,	20 E W
Harrison, Frederick Van Lennep,	Montclair, N. J.,	82 H
Harvey, Harold Dortic,	New York, N. Y.,	11 L P
Haskell, Amory Lawrence,	New York, N. Y.,	9 L P
Haupt, Henry Lloyd,	Abington, Pa.,	16 S M R
Heath, Bennett,	Muncie, Ind.,	21 L
Heintz, John Eichler,	New York, N. Y.,	161 L
*Hemphill, John,	Washington, D. C.,	7 N E
*Heinzelmann, Gerald Matthias,	Danbury, Conn.,	11 N E
Hinchman, Ralph Pratt, Jr.,	New York, N. Y.,	24 H'm
Hollander, Robert Bertram,	New York, N. Y.,	351 C'y
‡Hsu, Shih Chen,	Foochow, China,	19 N W
Jackson, Thomas Broun,	Charleston, W. Va.,	64 B
Jones, Benjamin Charles,	Tyrone, Pa.,	33 S E
Jordan, Brady Rimbey,	Pittsburgh, Pa.,	9 N R
Kahn, Alfred M.,	New York, N. Y.,	164 L
Kalt, William MacKenzie,	New York, N. Y.,	221 C'y
Kenyon, Douglas Houston,	New York, N. Y.,	2 W B
Kenyon, Nelson Townley,	New York, N. Y.,	42 B
King, William Campbell, Jr.,	Pittsburgh, Pa.,	2 M D
‡Kruse, Ferdinand John,	Brooklyn, N. Y.,	2 B, H
Lake, Donelson Martin,	Memphis, Tenn.,	134 H
Lee, Elliott Hugh,	Denver, Colo.,	11 S E
Lester, Robert Ridenour,	Kansas City, Mo.,	131 L
*Levengood, Sidney Lawrence,	Wayne, Pa.,	32 G C
Link, Vergil Gentry,	Stamford, Conn.,	11 S M R
Love, William De Loss, Jr.,	Hartford, Conn.,	31 B
MacCready, Robert Houston, Jr.,	Wood Ridge, N. J.,	Murray-Dodge

‡ Candidate for degree in February, 1917.
* Candidate for degree in February, 1916.

*McGraw, James Herbert, Jr.,	New York, N. Y.,	22 L
‡McKinney, Robert Lincoln,	Pittsburgh, Pa.,	363 C'y
Martin, Richard Spink,	Flatbush, N. Y.,	3 W W
*Mason, Walter Spencer,	Wilkes Barre, Pa.,	90 Nassau St.
Melosh, Henry Jay,	Jersey City, N. J.,	63 C
Middour, Emory Jacob,	Quincy, Pa.,	15 S E
Millikin, Severance Allen,	Cleveland, Ohio,	10 L P
Molt, Philip,	Weehawken, N. J.,	10 E B
Moore, Kirk,	New York, N. Y.,	104 B
Moore, Perry Ervien,	Hackensack, N. J.,	33 H
‡Mount, Thomas Ernest,	Baltimore, Md.,	25 C
Muirheid, John Guild,	Newark, N. J.,	54 L
Murdock, John Edgar,	Greensburg, Pa.,	61 B
Nebeker, Eugene Aquila,	Santa Monica, Cal.,	90 Nassau St.
Neuburg, Walter Benno,	Tompkinsville, N. Y.,	14 S W
Nichols, Charles Osborne,	Summit, N. J.,	90 Nassau St.
Niles, Thomas Burnet,	New York, N. Y.,	1 W M W
O'Kane, John Joseph, Jr.,	Princeton, N. J.,	23 Linden Lane
Osmun, John Eliot,	East Orange, N. J.,	31 '79 H
Otis, James Russell Lowell,	Bethlehem, Pa.,	1 B
Peacock, Grant Allen,	Pittsburgh, Pa.,	90 Nassau St.
Perlman, Solomon Phillips,	Trenton, N. J.,	2 N M R
Pitcairn, Gilbert Ledger,	East Orange, N. J.,	132 L
*Randolph, Robert Sayre Fitz,	Morristown, N. J.,	14 Aiken Ave.
Reed, Richard Brumback,	Van Wert, Ohio,	1 E W
*Rentschler, George Adams, Jr.,	Hamilton, Ohio,	45 Park Pl.
*Reynolds, Samuel Henry, Jr.,	Lancaster, Pa.,	52 '79 H
Rhoads, Jay Roscoe,	Philadelphia, Pa.,	43 B
Riedel, Hans Albrecht,	Brooklyn, N. Y.,	122 H
Robinson, Harold Russell,	Newark, N. J.,	63 B
Robinson, John Noel,	Sewickley, Pa.,	51 H
Rockey, Kenneth Henry,	West New Brighton, N. Y.,	Hill
*Rose, Julius Bernd,	Pittsburgh, Pa.,	13 '79 H
*Russell, Archibald Douglas, Jr.,	Princeton, N. J.,	"Edgerstoune"
Schwabacher, Herman Schaan,	Newark, N. J.,	351 C'y
Selby, Arthur Noel,	Oakland, Cal.,	91 H
Seymour, Lawrence Damrosch,	South Orange, N. J.,	7 E B
Sharp, Edwin Compton,	Millville, N. J.,	9 E M W
‡Serena, John Robert,	McKeesport, Pa.,	53 H
Sheets, Elmer Allen, Jr.,	Yonkers, N. Y.,	181 L

* Candidate for degree in February, 1916.
‡ Candidate for degree in February, 1917.

Shepherd, Joseph Henry,	Memphis, Tenn.,	321 C'y
Smith, Carlton Robinson,	Neenah, Wis.,	90 Nassau St.
Smith, Mowry,	Menasha, Wis.,	90 Nassau St.
Snowden, Allan Hanson,	Baltimore, Md.,	3 S E
Stockton, James Roosevelt,	Jacksonville, Fla.,	3 N D
*Sutphen, John Schureman, Jr.,	New York, N. Y.,	138 Nassau St.
Thomas, Harrison McClure,	Pittsburgh, Pa.,	64 Nassau St.
Tippetts, Charles Sanford,	St. Petersburg, Fla.,	34 U
Tomlinson, Norman Balderston,	Morristown, N. J.,	15 E W
Towers, Charles Daughtey,	Jacksonville, Fla.,	11 N D
‡Traylor, Michael Gavin,	Richmond, Va.,	312 C'y
Turner, Donald George,	Corning, Ia.,	90 Nassau St.
‡Twaddell, John Pawling,	Devon, Pa.,	132 L
Twitchell, Pierrepont Edwards,	New York, N. Y.,	41 B
van der Voort, Henry Ferdinand,	Jr., Dunkirk, N. Y.,	31 B
Wall, Edward Barry,	Columbus, Ohio,	31 H
*Ward, Galbraith,	New York, N. Y.,	52 '79 H
Willoughby, Westel Robinson,	Roland Park, Md.,	54 B
Woodman, Edgar Foster,	Concord, N. H.,	62 C

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CANDIDATES FOR THE B.S. DEGREE

‡Agar, William Macdonough,	New Rochelle, N. Y.,	2 B
Bamman, Edgar Becker,	Princeton, N. J., 23	Chambers St.
Basmadjian, Yervant,	Constantinople, Turkey,	3 B S
Bingham, Albert Busch,	New York, N. Y.,	29 N E
Blue, Kenneth Voris,	Grantwood, N. J.,	17 N W
Burr, William Judson, Jr.,	Trenton, N. J.,	9 N R
Butterworth, James Ebert,	Philadelphia, Pa.,	251 C'y
Davy, William Myron,	Atlantic City, N. J.,	62 '79 H
De Long, Oscar Anderson, Jr.,	Montclair, N. J.,	222 C'y
Dodd, Edmund Davey,	Bloomfield, N. J.,	16 B
‡Feree, Robert Burnside, Jr.,	Pittsburgh, Pa.,	341 C'y
Fillebrown, William Young,	Washington, D. C.,	9 M D
Gabriel, Ervant,	Weehawken, N. J.,	10 S M R
Harrigan, Arthur Nolan,	New York, N. Y.,	33 N E
Lloyd, Edward Stabler,	New York, N. Y.,	131 L
MacCready, Paul Beattie,	Wood Ridge, N. J.,	4 N R
Metzerott, Kirk Alexander,	Wasington, D. C.,	133 H
Mudd, Stuart,	St. Louis, Mo.,	23 '79 H

* Candidate for degree in February, 1916.
‡ Candidate for degree in February, 1917.

Ohliger, Lewis Philip,	East Las Vegas, N. M.,	5 A, H
Pemberton, Francis Rawle, Jr.,	San Diego, Cal.,	13 '79 H
Phelps, Winthrop Morgan,	Boundbrook, N. J.,	3 A, H'm
Richardson, Herbert James,	Memphis, Tenn.,	91 H
Ritter, James Bradford,	Philadelphia, Pa.,	20 M D
Roberts, Frank Calvin, Jr.,	Wynnewood, Pa.,	31 '79 H
Rukeyser, Walter Arnold,	Atlantic City, N. J.,	62 '79 H
Shanley, William Carleton, Jr.,	New York, N. Y.,	2 B
Shipman, George Marshall, Jr.,	Belvidere, N. J.,	32 H
Starr, Isaac, Jr.,	Philadelphia, Pa.,	222 C'y
Stevens, Murray Hoffman,	New York, N. Y.,	3 S M R
Thomson, John Watson, Jr.,	Hackensack, N. J.,	93 H
Uebelacker, Armin Adams,	Hackensack, N. J.,	1 S E B
van Doren, Harold Surfleet,	Newark, N. J.,	16 Bank St.
Van Dyke, Eugene Nelson,	Renovo, Pa.,	17 S W
Vickery, James Cutler,	Washington, D. C.,	5 N D
Wadsworth, John Vredenburgh,	Buffalo, N. Y.,	34 B
White, Walter,	Brookline, Mass.,	231 C'y
Wiese, Archibald,	Pittsburgh, Pa.,	11 S M R
Wolff, Fred Reginald,	New York, N. Y.,	342 C'y

B.S. Seniors.....38

Candidates for the C.E. Degree

Bergen, Leigh Bamber,	Paterson, N. J.,	26 M D
Boyd, Robert James, Jr.,	Auburn, Neb.,	5 W M W
Brereton, O'Hara Denny,	Chambersburg, Pa.,	40 P
Field, William Thayer,	Newark, N. J.,	33 '79 H
Friesell, William Henderson, Jr.,	Pittsburgh, Pa.,	138 Nassau St.
Gillespie, George,	Nottingham, Pa.,	138 Nassau St.
Glick, George Washington, Jr.,	Atchison, Kan.,	8 A, E M W
Good, Donald Stanley,	Hackettstown, N. J.,	
Gould, John Dickason,	Indianapolis, Ind.,	75 H
Heyniger, Charles Lambert,	Corning, N. Y.,	33 H
Hinshaw, John Carl Williams,	New York, N. Y.,	40 P
Klotz, Russell Louis,	Singac, N. J.,	26 S E
Knight, Frederick Hammond,	Washington, D. C.,	242 C'y
Kock, Charles Edward,	New Orleans, La.,	195 Nassau St.
Larsen, John,	McHenry, Ill.,	95 B
McTigue, John Burlinson,	Far Rockaway, N. Y.,	27 M D

Mandel, Oscar,	Grantwood, N. J.,	251 C'y
*Price, Alfred Kellogg,	Oakmont, Pa.,	11 N W
Price, Henry Stewart,	Brooklyn, N. Y.,	41 B
Proctor, Carlton Springer,	Washington, D. C.,	Hill
Runk, George Sebastian, Jr.,	New York, N. Y.,	61 C
Shea, Edward Lane,	Nashua, N. H.,	1 N E
Starr, Walter Knickerbocker,	Princeton, N. J.,	56 Bayard Lane
Vanderhoef, Harman Blauvelt, Jr.,	New York, N. Y.,	331 C'y
Wallace, George Clayton, Jr.,	Paducah, Ky.,	26 N E

C.E. Seniors.....25

Junior Class, 1917

Candidates for the A.B. Degree

Amacker, David Muir,	Lake Providence, La.,	5 W B
Ames, Knowlton Lyman, Jr.,	Chicago, Ill.,	90 Nassau St.
Arnold, Carl Franklin,	Laramie, Wyo.,	12 S D
Averbeck, Maximilian Justus, Jr.,	New York, N. Y.,	4 W W
Bahrenburg, Charles Alfred,	Newark, N. J.,	124 H
Behrer, Alvin,	Queens, L. I., N. Y.,	12 N W
Black, William Thompson,	Detroit, Mich.,	7 B, H
Boadway, Walter Melville,	Pasadena, Cal.,	300 H'm
Brown, Charles Edward, Jr.,	Lake Forest, Ill.,	32 '79 H
†Brubaker, Raymond Ernest,	Lebanon, Pa.,	302 H S
Bullock, Harrison,	Cohoes, N. Y.,	3 S E B
Burkert, Grover Cleveland,	Trenton, N. J.,	123 H
†Butt, Samuel McClellan,	Bloomsbury, N. J.,	11 M D
Cameron, Truman David,	Albany, N. Y.,	Hill
Cator, Horace Tarr,	Roland Park, Md.,	2 A, H'm
Cochran, Robert Armstrong, III,	Maysville, Ky.,	41 S E
Compton, Samuel Harriot,	Sea Bright, N. J.,	30 P
Cook, Palmer Henry,	Oyster Bay, N. Y.,	13 S E
Crawford, Robert Leighton, III,	New York, N. Y.,	52 C
Criscitiello, Modestino, Jr.,	Jersey City, N. J.,	22 N E
Day, Kenneth Mosier,	Pittsburgh, Pa.,	Hill
Deitsch, Frank Julius,	New York, N. Y.,	65 C
De Lanoy, Douglas,	New York, N. Y.,	15 L P
Demorest, Gilbert Curtis,	New York, N. Y.,	41 H
Dickey, Paul Browning,	Pittsburgh, Pa.,	185 L

*Died November 26, 1915.
† Candidate for degree in February, 1918.

Dillon, Milton Sands,	New York, N. Y.,	62 P
Duer, Edward Louis, II,	Philadelphia, Pa.,	84 H
Dunlevy, Risher Alexander,	Pittsburgh, Pa.,	8 N M R
Eberstadt, Rudolf,	East Orange, N. J.,	6 W B
Edgar, Malcolm Shepherd,	Jamesburg, N. J.,	4 W M W
Edgar, Marshall Lowndes,	Jamesburg, N. J.,	4 W M W
Fine, Stacy Guild,	Trenton, N. J.,	7 Madison St.
Forster, Ernst Hermann,	Bridesburg, Pa.,	7 M D
Foster, John Miley,	East Orange, N. J.,	7 N D
Fowler, Ludlow Sebring,	New York, N. Y.,	121 H
Fowler, Oswald,	New York, N. Y.,	68 L
Gennert, Alfred Gottlieb,	Elizabeth, N. J.,	104 H
Gowen, James Emmett,	Philadelphia, Pa.,	171 L
Guy, William Edwin,	St. Louis, Mo.,	332 C'y
Hadden, Crowell, III,	Brooklyn, N. Y.,	43 P
Hamilton, William Paul,	Wilmington, Del.,	15 N W
Harris, Eduard, II,	Rochester, N. Y.,	32 '79 H
Harris, Stanley Edwards,	Tripoli, Syria,	15 S W
Harris, Walter Butler, Jr.,	Princeton, N. J.,	Greenholm
Hazlehurst, Robert Purviance,	Baltimore, Md.,	9 E B
Heimbach, Robert Elwood,	Quakertown, Pa.,	10 S E
Hills, Paul William,	Auburn, N. Y.,	7 L P
Hiltebeitel, Leslie Cressman,	Hendricks, Pa.,	37 N E
Hilton-Green, Henry Leonard,	Pensacola, Fla.,	71 B
Hoskins, Harold Boies,	Plainfield, N. J.,	32 P
Kempshall, Everard,	Elizabeth, N. J.,	23 L
Kennedy, Charles Edwin,	New York, N. Y.,	5 S R
Kurzman, George Ferdinand,	New York, N. Y.,	28 C
Leggett, Milton William,	Pittsburgh, Pa.,	94 H
Lorenz, Edward Henry,	Dayton, Ohio,	124 H
Lowrie, William Arthur,	Pittsburgh, Pa.,	22 H
†Lyons, William Wallace,	Atlanta, Ga.,	5 E B
McChesney, Donald Stevenson,	Syracuse, N. Y.,	64 Nassau St.
McKaig, Alexander Laughlin,	Pittsburgh, Pa.,	72 H
McLean, William Lippard, Jr.,	Philadelphia, Pa.,	68 L
Macsherry, Clinton Kilty,	Baltimore, Md.,	93 B
March, Harold Merriam,	Beirut, Syria,	15 S W
Martin, Townsend,	New York, N. Y.,	121 H
Matlock, Paul Bacon,	Denver, Colo.,	413 C'y
Neely, William Hamlin,	Mifflintown, Pa.,	300 H'm

† Candidate for degree in February, 1918.

Nevin, Charles Wordsworth, II,	Riverton, N. J.,	97 B
Nicholas, John Simmons,	Sand Springs, Okla.,	34 U
Odell, Herbert Naugle,	Newark, N. J.,	7 N D
Oliphant, Elkins,	Trenton, N. J.,	7 S E B
†Orrick, De Courcy Wright,	Baltimore, Md.,	3 L P
Parker, John James, Jr.,	Cleveland, Ohio,	4 S E B
Peyton, Bernard,	New York, N. Y.,	332 C'y
Purves, George Tybout,	Princeton, N. J.,	52 P
Rahill, William Joseph,	Princeton, N. J., 56 Jefferson Road	
Read, Martin Sims,	Chattanooga, Tenn.,	22 H
Reed, Kenneth McKibben,	New York, N. Y.,	21 '79 H
Reynolds, William Frederick, Jr.,	Bellefonte, Pa.,	42 P
Riker, Irving,	Newark, N. J.,	42 '79 H
Ritter, Richard Henry,	Brooklyn, N. Y.,	4 E M W
Ross, Donald Neil Campbell,	New York, N. Y.,	32 P
Russell, George Louis, Jr.,	Lewistown, Pa.,	82 B
Rutherfurd, John,	Warwick, N. Y.,	62 P
Savage, Arthur Vandervoort,	Philadelphia, Pa.,	52 P
Schmon, Arthur Albert,	Newark, N. J.,	311 H'm
Sellers, Barrington West,	Montclair, N. J.,	13 N M R
Semmens, Charles Galbraith,	Turtle Creek, Pa.,	211 C'y
Sherrerd, Henry Dyer Moore,	Haddonfield, N. J.,	41 C
Sitterly, Bancroft Walker,	Madison, N. J.,	16 N E
Spencer, Herbert Reynolds,	Erie, Pa.,	232 C'y
Springs, Elliott White,	Lancaster, S. C.,	25 C
Stewart, George Rippey, Jr.,	Pasadena, Cal.,	22 B
Stoeltzing, Ralph Wallace,	Pittsburgh, Pa.,	143 C'y
Sturges, Perry MacKay,	New York, N. Y.,	42 '79 H
Taylor, Edmund, Jr.,	Greenville, Miss.,	94 H
Ten Eyck, Cabell Breckinridge,	Yonkers, N. Y.,	52 H
Turrentine, Marion Lowell,	Monticello, N. Y.,	15 N W
Vail, Herman Lansing,	Cleveland, Ohio,	15 L
Van Dyke, William Duncan, Jr.,	Milwaukee, Wis.,	171 L
Vensel, Harold Willis,	Pittsburgh, Pa.,	44 C
Vest, George Graham,	Roslyn, Md., 82 Nassau St.	
Voorhis, John Winfield,	Ocean Grove, N. J.,	20 B S
Ward, Marquand,	New York, N. Y.,	1 L P
†Weidman, Warren Miller,	Shoemakersville, Pa.,	39 U
Wickes, Joseph,	Chestertown, Md.,	9 E B
Williams, Curtis Chandler, Jr.,	Columbus, Ohio,	22 B

A.B. JUNIORS.....105

† Candidate for degree in February, 1918.

CANDIDATES FOR THE LITT.B. DEGREE

†Alexandre, Frederick Francis,	New York, N. Y.,	11 H'm
Alley, John Gibb,	Larchmont, N. Y.,	14 '79 H
Anderson, Thomas Hart, Jr.,	New York, N. Y.,	2 S E B
Annin, William Stuart,	Richmond, Mass.,	9 N E
Backus, Kenneth Harrison,	Caldwell, N. J.,	2 A, H
Barnum, Paul Thurman,	California, Pa.,	23 L
Barrett, Myron Knox,	New York, N. Y.,	5 S R
Bechtel, Frank, Jr.,	Carpenter, Del.,	8 B, H
Berl, Charles Waggaman,	Wilmington, Del.,	82 Nassau St.
Bettes, James Jerome,	Jacksonville, Fla.,	11 B
Betts, Charles Malone, III,	Elkins Park, Pa.,	84 Nassau St.
Bevin, Newton Philo, II,	Jamaica, N. Y.,	82 B
Bishop, John Peale,	Charlestown, W. Va.,	9 W W
Black, John Baxter,	Mansfield, Ohio,	52 C
Bleecker, Lyman Cox,	Garden City, N. Y.,	82 Nassau St.
Bloom, Frederick Eller,	Peoria, Ill.,	10 E W
Boaz, William Gaillard,	Charleston, S. C.,	16 L
Bohlen, Francis Herman, Jr.,	Philadelphia, Pa.,	11 S W B
Bohmfalk, John Frederick,	New York, N. Y.,	113 B
Bovey, William Harbaugh,	Hagerstown, Md.,	143 C'y
Brackenridge, Gavin,	New York, N. Y.,	13 N W
Bryan, Samuel Smith, Jr.,	Titusville, Pa.,	65 B
Buchanan, Percy Heilner,	Elizabeth, N. J.,	12 N W
Burnes, Dudley Raymond,	Greenwich, Conn.,	1 E M W
Bush, Sargent,	Westfield, N. J.,	31 S E
Cale, George William, III,	St. Louis, Mo.,	43 '79 H
Carpenter, John Woods,	Cleveland, Ohio,	6 W M W
Chamberlin, William Beaver, Jr.,	Philadelphia, Pa.,	1 W B.
Chapin, Henry,	Springfield, Mass.,	451 C'y
Chaplin, Duncan Dunbar, Jr.,	Ridgewood, N. J.,	5 S M R
Chester, Norman Merrill,	New York, N. Y.,	442 C'y
Clarkson, William Floyd,	Pittsburgh, Pa.,	12 '79 H
Coffey, Arthur Herbert,	Hackensack, N. J.,	16 N W
Cohû, Henry Wallace,	New York, N. Y.,	154 L
Cohû, La Motte Turck,	New York, N. Y.,	154 L
Colwell, Kent Galbraith,	St. Louis, Mo.,	20 P
Comey, Harold Dean,	Cleveland, Ohio,	241 C'y
Cooper, Samuel Inman,	Philadelphia, Pa.,	64 '79 H
Copeland, Alfred Thomas,	Columbus, Ohio,	26 C

† Candidate for degree in February, 1918.

Cory, Harvey Lawrence,	Rochester, N. Y.,	30 P
Dempsey, William Lawrence,	Newark, N. J.,	25 S E
†Depue, David Ayres,	Newark, N. J.,	8 B, H
De Yoe, Willard Luther Lydecker,	Paterson, N. J.,	162 C'y
Dickerman, Charles Augustus,	West Somerville, Mass.,	101 L
Donahoe, Charles William,	Seattle, Wash.,	138 Nassau St.
Donner, Joseph William,	Bryn Mawr, Pa.,	10 N D
Dorrance, Edwin Russell,	East Orange, N. J.,	311 H'm
Drorbaugh, Wells,	Williamsport, Pa.,	54 '79 H
Dunn, Henry Teasdale,	Jacksonville, Fla.,	3 W M W
Durell, Anthony Woodward, Jr.,	Woodbury, N. J.,	143 L
Durell, Edward,	Cleveland, Ohio,	2 B, H'm
Eberhardt, Melville Alexander,	Pittsburgh, Pa.,	44 C
Errington, Robert Nelson,	Lackawanna, N. Y.,	12 N M R
Ertel, Bennet Hunter,	Hempstead, N. Y.,	53 '79 H
Etter, Benjamin Franklin,	Harrisburg, Pa.,	44 B
Everitt, John Willard,	Orange, N. J.,	71 H
Feustman, Bernard Henry Thatcher,	New York, N. Y.,	90 Nassau St.
Fitzgerald, Francis Scott,	St. Paul, Minn.,	32 L
†Ford, Henry William,	Morristown, N. J.,	24 '79 H
Foster, Pell William, Jr.,	New York, N. Y.,	24 '79 H
Franks, Robert Augustus, Jr.,	New York, N. Y.,	41 '79 H
Frost, Joseph Herbert,	Trenton, N. J.,	12 E B
Funsten, Randolph Fairfax,	St. Louis, Mo.,	20 P
Gailey, James Wilson,	New Park, Pa.,	12 N M R
Garvey, James McBrayer,	Cincinnati, Ohio,	243 C'y
Gatens, Norman Elder,	New York, N. Y.,	111 H
Gibson, Harold Frederick,	Brooklyn, N. Y.,	41 H
Gilmour, Bryant Furbish,	Brooklyn, N. Y.,	5 S E
Given, James Bartley, Jr.,	Brooklyn, N. Y.,	4 L P
Goodrich, Frederick Pabst,	Milwaukee, Wis.,	16 C
Hall, Perry Edwards,	Springfield, N. J.,	39 S E
Hardin, John Ralph, Jr.,	Newark, N. J.,	152 L
Harding, Le Roy Lowerre,	New York, N. Y.,	21 '79 H
Hayward, William Gardner,	Gallipolis, Ohio,	15 N E
Heath, Walter Layton,	Summit, N. J.,	133 H
Heimerdinger, Charles Emanuel,	New York, N. Y.,	71 P
Heimerdinger, Frederick Max,	New York, N. Y.,	71 P
Hersh, Edmund Samuel,	Elizabeth, N. J.,	112 B

† Candidate for degree in February, 1918.

Heywood, Harvey Merrick,	Arden, N. C.,	142 H
Higgins, John Raymond,	Flemington, N. J.,	17 N E
Highley, Charles Corson,	Conshohocken, Pa.,	13 B
Hoyt, Henry Hamilton,	East Orange, N. J.,	6 W R
Humphreys, John George Stephenson,	Pittsburgh, Pa.,	3 L P
Humphreys, William Young, Jr.,	Pittsburgh, Pa.,	7 L P
Hunt, Theodore Brainerd,	Metuchen, N. J.,	15 B
Hurlock, William Spry, Jr.,	Harrisburg, Pa.,	10 U P
Iseman, David Arthur,	Washington, Pa.,	36 P
Jackman, Alan,	Pittsburgh, Pa.,	92 P
Jackman, David Ellsworth, Jr.,	Pittsburgh, Pa.,	92 P
Jackson, Norris Dean,	St. Paul, Minn.,	3 W M W
Johnson, Walter Haynes, Jr.,	Buffalo, N. Y.,	51 L
Keating, Theodore Barnum,	Buffalo, N. Y.,	10 N D
Kempner, David Walter,	New York, N. Y.,	28 C
King, Gordon Coltart,	Pittsburgh, Pa.,	114 H
Knott, Arthur Reynolds,	New York, N. Y.,	14 W W
Knowlton, Philip Blaine,	Marion, Mass.,	11 H'm
Laney, Harold Leach,	Jersey City, N. J.,	17 W W
La Tour, Charles Foster,	New York, N. Y.,	2 S E B
Lewis, Arthur Carroll,	Plainfield, N. J.,	3 A, H'm
Link, Stuart MacArthur,	New York, N. Y.,	61 P
Lukens, Lewis Nelson,	Haverford, Pa.,	13 B
McAdoo, William Gibbs, Jr.,	Washington, D. C.,	5 L P
McCann, Richard Harper,	Philadelphia, Pa.,	37 S E
McCormick, Gordon,	Chicago, Ill.,	64 '79 H
McDonald, Russell Miller,	Haddonfield, N. J.,	7 S E
McDowell, John Norman,	Elkview, Pa.,	8 S E
MacNichol, Edward Ford,	Toledo, Ohio,	54 '79 H
McRae, Donald Oliver,	Pittsburgh, Pa.,	212 C'y
†Madden, John Edward, Jr.,	Lexington, Ky.,	12 H'm
Mathiasen, Alfred,	Keyport, N. J.,	11 B
Miles, Thomas Henry, Jr.,	Philadelphia, Pa.,	243 C'y
Miller, Evan Jones,	Harrisburg, Pa.,	5 N R
Moore, William Blackshear,	New York, N. Y.,	74 B
Mudge, William Forbes,	Jamaica Plain, Mass.,	41 P
Nelson, Paul Daniel,	Chicago, Ill.,	102 H
Neuberger, Harry Hobson,	New York, N. Y.,	305 H'm
Newbury, Frank John, Jr.,	Trenton, N. J.,	15 P
Nixon, Frederick William,	Orange, N. J.,	32 B
Nourse, Robert Lee, Jr.,	Boise, Idaho,	14 S D

† Candidate for degree in February, 1918.

Osmer, James Harold,	Franklin, Pa.,	98 B
Parsons, Reginald Harrison,	Shrewsbury, N. J.,	10 S W
Paulson, Daniel McKee,	Pittsburgh, Pa.,	72 H
Perkins, George Walbridge, Jr.,	New York, N. Y.,	232 C'y
Pettit, Donald,	Princeton, N. J.,	185 L
Phillips, Lawrence,	New York, N. Y.,	11 C
Pierce, Richard Alexander,	St. Louis, Mo.,	66 L
Pierce, Vinton Ulric Dahlgren,	Washington, D. C.,	141 C'y
Pilling, Richard Thomas, Jr.,	Stanton, Del.,	66 L
Plympton, George Franklin,	Hackensack, N. J.,	162 C'y
Powell, Richard Chew,	Philadelphia, Pa.,	3 S E B
Reed, Stayman Latimer,	Clearfield, Pa.,	53 '79 H
Reynders, John Van Wicheren, Jr.,	Steelton, Pa.,	11 S W B
Robertson, William Platt,	Jackson, Tenn.,	3 E M W
Schaettler, Frederic Vollmer,	New York, N. Y.,	14 A, H
†Scheerer, Paul Renner,	East Orange, N. J.,	322 C'y
Scheerer, William, Jr.,	East Orange, N. J.,	322 C'y
Schmertz, Robert Colgan,	Jeannette, Pa.,	40 S E
Schoen, William Henry, Jr.,	Pittsburgh, Pa.,	12 '79 H
Scott, Charles MacCurdy,	Bellefonte, Pa.,	82 Nassau St.
Scully, John Thomas,	New York, N. Y.,	90 Nassau St.
†Shanley, Joseph Sanford,	Newark, N. J.,	90 Nassau St.
†Silver, Edgar Oscar,	East Orange, N. J.,	90 Nassau St.
Simon, Horace Franklin,	New York, N. Y.,	14 P
†Simonin, Eugene Carter Buffington,	Philadelphia, Pa.,	142 H
Singleton, Jouett Fitch,	Evanston, Ill.,	51 '79 H
Smith, Harvey Hassall,	Flushing, N. Y.,	3 B, H'm
Sparks, Hunter De Bow,	Terre Haute, Ind.,	32 B
Stericker, George Black,	Springfield, Ill.,	306 H'm
Stockton, Walter Thaw,	Evanston, Ill.,	51 '79 H
Stoltze, John Robert,	Minneapolis, Minn.,	64 H
Strater, Edward La Nanze,	Washington, D. C.,	23 C
Straw, Herman Foster, Jr.,	Manchester, N. H.,	115 B
†Talmage, Thomas Hunt,	New York, N. Y.,	15 L P
Taylor, Merlin McFarland,	Philadelphia, Pa.,	41 C
Tenison, William Henry,	Dallas, Tex.,	12 E B
Tibbott, David Watts,	Philadelphia, Pa.,	41 P
Tickner, Reginald,	Sharpsville, Pa.,	96 B
Twyeffort, Herbert Emil,	New York, N. Y.,	103 P
Vollrath, Harold Benson,	Philadelphia, Pa.,	212 C'y
Wales, Kenneth Sanford,	Washington, D. C.,	3 S R

† Candidate for degree in February, 1918.

Warfield, John David, Jr.,	Chicago, Ill.,	36 P
Warren, James Stratton,	Bronxville, N. Y.,	16 C
Weil, Adolphus Leo, Jr.,	Pittsburgh, Pa.,	104 H
Wetherbee, Ross Noble,	Detroit, Mich.,	2 B, C
White, Harwood Arend,	Grand Rapids, Mich.,	64 H
†Whitlock, Francis Beacham,	Marietta, Ohio,	123 H
Wilson, Robert Cade, Jr.,	New York, N. Y.,	114 H
Wiss, Jerome Baker,	Newark, N. J.,	138 Nassau St.
Wolfe, Edgar Thurston,	Columbus, Ohio,	30 Mercer St.

LITT.B. JUNIORS.....169

CANDIDATES FOR THE B.S. DEGREE

Barba, Philip Stanley,	Philadelphia, Pa.,	27 C
Barnitz, William Bixler,	Barnitz, Pa.,	43 '79 H
Bluntschli, Hans Arthur,	Paterson, N. J.,	114 B
Brown, Allan Conover,	Rhinelander, Wis.,	26 C
Burchenal, Charles Henry,	Glendale, O.,	92 H
Carty, John Russell,	New York, N. Y.,	123 H
Closson, James Harwood, III,	Philadelphia, Pa.,	2 E W
Culver, Henry Scholl,	St. Louis, Mo.,	1 N M R
Cuneo, Joseph Charles,	Hoboken, N. J.,	12 S E
Cutler, Ralph Hinchman,	Morristown, N. J.,	4 E B
Denison, John Marcus,	Baltimore, Md.,	14 N E
Dougherty, Gregg,	Steubenville, O.,	101 L
Dresser, Solomon Richard,	Bradford, Pa.,	61 P
Edwards, Lewis Mathew,	Trenton, N. J.,	23 William St.
Gerstell, Robert Sinclair,	Easton, Pa.,	92 H
Hasslacher, George Frank,	New York, N. Y.,	44 B
Hewitt, Ashley Cooper,	New York, N. Y.,	421 C'y
Horne, James Quigley,	Yonkers, N. Y.,	65 B
Jones, Luther Goodrich,	Temple, Tex.,	51 L
Landon, Sealand Whitney, Jr.,	Bordentown, N. J.,	5 W B
Leake, Chauncey Depew,	Roselle, N. J.,	311 H'm
Lowrie, William Lyon, Jr.,	Tyrone, Pa.,	5 N R
Manchee, Vincent Taylor,	Toronto, Can.,	1 A, H'm
Paull, James Dana,	Pittsburgh, Pa.,	41 S E
Phillips, Kenneth Augustus,	Brooklyn, N. Y.,	5 E M W
Raymond, Landon Thomas,	Hoboken, N. J.,	10 S W
Robertson, Malcolm Troop,	Brooklyn, N. Y.,	12 W W
Runyon, Paul Mefford,	South Orange, N. J.,	5 M D
Sackett, Nelson Benson,	Providence, R. I.,	15 B

† Candidate for degree in February, 1918.

Schüllinger, Rudolph Nicholas, New York, N. Y., 38 S E
Shanley, Bernard Michael, New York, N. Y., 102 H
Shea, Christian Bernard, Pittsburgh, Pa., 341 C'y
Sheppard, George Brown, Pottstown, Pa., 21 S E
Shoemaker, George Erety, Jr., Philadelphia, Pa., 61 '79 H
Smith, Oliver Helmuth, Philadelphia, Pa., 82 Nassau St.
Van Cleve, Benjamin Muirheid, Jr., Morristown, N. J., 2 A, H
Walcott, Benjamin Stuart, Washington, D. C., 241 C'y
Young, Henry Wheeler, Chicago, Ill., 115 B
Ziesing, Richard, Jr., Cleveland, O., 16 N W

B.S. JUNIORS.....39

CANDIDATES FOR THE C.E. DEGREE

Casasús, Mario, New York, N. Y., 186 L
Chamberlin, John Rea, Torresdale, Pa., 95 B
Charles, Michael Augustine, Brooklyn, N. Y., 110 Nassau St.
Davis, Hartford M., New York, N. Y., 47 N. Tulane St.
Driggs, Edmund Hope, Jr., Brooklyn, N. Y., 41 P
Eddy, John Eldridge, Chicago, Ill., 74 B
Farr, Vernon Boyd, Princeton, N. J., 20 Vandeventer Ave.
Folwell, Charles Henry, Jr., Mount Holly, N. J., 52 H
Garrett, William Blight, Auburn, N. Y., 310 H'm
Garside, Herbert Rushforth, New York, N. Y., 2 B, C
Grant, Charles Hampson, New York, N. Y., 61 '79 H
Haas, Cyril Henry, New York, N. Y., 4 W B
Hammond, Robert Sims, Orange, N. J., 4 E M W
Hogg, Frank Trevor, II, Pittsburgh, Pa., 41 P
Holstein, George Meade, Jr., Plainfield, N. J., 73 B
Ingersoll, Charles Jared, Philadelphia, Pa., 5 L P
Joeck, Thomas Dudley, Asbury Park, N. J., 12 Park Pl.
Kenway, Ivor Frederick Llewellyn, New York, N. Y., 64 C
Latrobe, Charles Hazelhurst, Baltimore, Md., 84 H
McConnaughy, Donald Sutter, New York, N. Y., 138 Nassau St.
Madden, William McKinley, West Springfield, Mass., 110 Nassau St.
Nacht, Albert, Brooklyn, N. Y., 9 N M R
Richards, John van Kirk, Media, Pa., 18 L
Rutledge, Henry Grove, Perryville, Md., 3 E M W
Stevens, John Hoffman, Westfield, N. J., 6 W M W
Vermeule, Cornelius Clarkson, Jr., East Orange, N. J., 71 H
Watt, Howard Reifsnyder, Norristown, Pa., 143 L
Whitehouse, Franklin Schenck, Pelham, N. Y., 14 '79 H

C.E. JUNIORS.....28

SOPHOMORE CLASS, 1918

CANDIDATES FOR THE A.B. DEGREE

Alleman, Winnemore Young,	Hanover, Pa.,	3 S R
Anderson, Lawrence Lewis, Jr.,	Louisville, Ky.,	5 E B
Arnold, Carl Lahl,	Saltsburg, Pa.,	17 S E
Barret, John Henry,	Princeton, N. J.,	34 H
Beal, William Rodgers,	Pittsburgh, Pa.,	90 P
Bieler, Louis Henley,	Indianapolis, Ind.,	11 H
Black, William,	Pittsburgh, Pa.,	9 A, H
Bruch, Russell Lowerre,	New York, N. Y.,	3 B, H'm
Buell, William Ackerman,	Rochester, N. Y.,	123 L
Butz, Harold Augustine,	New Holland, Pa.,	9 S R
Cameron, William Brodnax,	Petersburg, Va.,	6 S D
Chambers, Hilary Ranald,	New York, N. Y.,	76 H
Christie, Alfred Ellison,	Trenton, N. J.,	8 S R
Conant, Samuel Dozier,	St. Louis, Mo.,	131 H
Cory, Benjamin Hyde,	Fresno, Cal.,	90 P
Crocker, Edward Savage, Jr.,	Fitchburg, Mass.,	7 U P
Cromwell, Jarvis,	New York, N. Y.,	74 H
Crossley, Archibald Maddock,	Trenton, N. J.,	23 William St.
De Lacy, William Burr Joseph,	New York, N. Y.,	162 L
De Long, Charles Foley,	Philadelphia, Pa.,	23 P
Dennis, Holmes Van Mater, III,	New Brunswick, N. J.,	144 L
Drohan, John Henry,	Brooklyn, N. Y.,	5 E M W
Dubbs, Henry Millington,	Philadelphia, Pa.,	15 N D
Duncan, William Grinstead,	Louisville, Ky.,	12 H
Elder, James Galt,	Harrisburg, Pa.,	3 N R
Elliott, John Sampson,	Morristown, N. J.,	4 E W
Farrelly, Richard Lloyd,	New York, N. Y.,	103 B
Flinn, Lewis Barr,	Wilmington, Del.,	82 P
Freeborn, William Livingston,	New York, N. Y.,	111 B
Gillette, Alfred Adams,	Rome, N. Y.,	60 P
Goldstein, Israel,	Jersey City, N. J.,	9 S W
Goodchild, Donald,	Middletown, N. J.,	15 N D
Gorter, Thomas Poultney,	Baltimore, Md.,	A, B
Green, Thomas Barrett,	Seattle, Wash.,	2 C, H
Griffith, Richard Matthews,	Los Angeles, Cal.,	21 H'm
Guerin, Irving A.,	Mendham, N. J.,	12 S M R
Hammond, Alexander Patton,	Altoona, Pa.,	24 L
Harper, Raymond Alfred,	Paris, France,	12 E W
Harrison, Henry Christopher, Jr.,	Elizabeth, N. J.,	43 L

Hazard, Edgerton,	New York, N. Y.,	18 S W
Herron, Pomeroy Jardon,	Pittsburgh, Pa.,	35 P
Herron, Samuel Davidson,	Pittsburgh, Pa.,	35 P
Ireland, Thomas Saxton,	Denver, Colo.,	6 E W
Jepson, Elbert Raymond,	North Adams, Mass.,	5 N M R
Johns, Frederick Winston,	St. Louis, Mo.,	82 Nassau St.
Lamar, Lamartine Varnedoe,	Pensacola, Fla.,	82 Nassau St.
Lawyer, George Irwin,	Albany, N. Y.,	63 H
Lee, Phillips Blair,	Silver Spring, Md.,	31 C
Leidy, Roy Sweisford,	Delphi, Pa.,	2 S M R
Logan, Kenneth Bray,	Brooklyn, N. Y.,	97 B
Lyman, Alexander Victor,	New York, N. Y.,	111 L
McCloskey, Mark Alexander,	Glenbrook, Conn.,	18 S W
McWilliams, John Scott,	Shamokin, Pa.,	142 L
Marbury, Fendall,	Baltimore, Md.,	82 Nassau St.
Martin, Willard,	Princeton, N. J.,	14 N M R
Matthews, William Procter,	Cincinnati, Ohio,	8 A, H
Meek, Theodore Charles,	Omaha, Neb.,	8 A S
Meigs, Hildreth,	Lowell, Mass.,	64 Nassau St.
Middleditch, Francis Armstrong,	Westfield, N. J.,	452 C'y
Miller, Clark,	Pittsburgh, Pa.,	41 L
Morgan, George Frederick, Jr.,	New York, N. Y.,	43 L
Oehler, James Cornelius,	Palestine, Texas,	8 N R
Ogden, David Ayres Depue,	Montclair, N. J.,	12 W B
Packard, Frank Howe,	Chicago, Ill.,	13 U P
Page, Samuel Davis, Jr.,	Philadelphia, Pa.,	16 M D
Parker, Percy, Jr.,	Lowell, Mass.,	64 Nassau St.
Parker, William Mercier,	Cleveland, Ohio,	111 L
Parsons, Edward Dippolt,	Trenton, N. J.,	101 H
Paul, John Gile,	Watertown, Fla.,	27 Vandeventer Ave.
Paul, William Allen Butler,	Philadelphia, Pa.,	21 H'm
Poe, Edgar Allan, Jr.,	Baltimore, Md.,	81 H
Pyne, Percy Rivington, Jr.,	New York, N. Y.,	33 C
Quier, Hawley,	Reading, Pa.,	33 P
Richardson, Charles Snyder,	Bernville, Pa.,	12 S W
Roche, Harding Sanford,	East Orange, N. J.,	11 A, H
Rodgers, Francis Ryerson,	Springfield, Ohio,	11 W W
Rothensies, Walter Joseph,	Walton, N. Y.,	47 N. Tulane St.
Rue, Francis Jamison, III,	Philadelphia, Pa.,	35 L
Schmidt, George Small, Jr.,	York, Pa.,	361 C'y
Schwabacher, Wolfgang Simon,	Newark, N. J.,	1 M D

Sears, Laurence Milton,	Syracuse, N. Y.,	A, E B
Smith, Craig Ritchie,	Princeton, N. J.,	9 N W
Smith, George Watson Hall,	Providence, R. I.,	112 L
Smyth, Henry De Wolf,	Princeton, N. J.,	311 C'y
Southworth, Shirley Donald,	Pittsburgh, Pa.,	6 S W
Stewart, Warren Trusdell,	South Orange, N. J.,	8 A, H
Syme, Arthur Melville Quintain,	Chicago, Ill.,	64 Nassau St.
Turner, Charles Franklin,	Wilkes-Barre, Pa.,	3 C, H'm
Underwood, Charles Albert,	Philadelphia, Pa.,	8 E B
Van Tuyl, Ray Whittier,	Minneapolis, Minn.,	7 A, H
Vogt, Ernest Louis,	Louisville, Ky.,	12 H
Waddington, George Arthur,	Adams, Mass.,	12 S M R
Westcott, John Howell, Jr.,	Princeton, N. J.,	34 P
White, Charles Trumbull,	New York, N. Y.,	312 H'm
Williamson, David,	Colorado Springs, Colo.,	74 H
Wilson, Edmund LeRoy,	Forty Fort, Pa.,	62 B S
Wilson, James, III,	Paterson, N. J.,	11 A, H
Winans, David Ross,	Princeton, N. J.,	10 N E
Woodbridge, John Sylvester,	Shanghai, China,	6 S R
Woods, Joseph Milliken, Jr.,	Lewistown, Pa.,	33 P
Wright, Edmund Harmon,	Cincinnati, Ohio,	28 Chambers St.

A.B. SOPHOMORES.....101

CANDIDATES FOR THE LITT.B. OR B.S. DEGREE

Allen, Wayman McCreery,	St. Louis, Mo.,	A, B
Armstrong, Sinclair Wallace,	Middletown, Conn.,	94 P
Arnold, David Ralph Jaques,	Staten Island, N. Y.,	121 L
Arrott, Charles Ramsey,	Sewickley, Pa.,	31 C
Babson, Thomas Everett,	Arlington, N. J.,	144 C'y
Baker, Frank Crowell,	Kansas City, Kan.,	122 L
Baker, Malcolm Merrill,	New York, N. Y.,	24 B
Barker, Leo Vaughn,	Denver, Colo,	312 H'm
Battle, George Kimball,	St. Louis, Mo.,	184 L
Bayly, Charles Edward,	Denver, Colo.,	2 A, C
Becker, Edward Philip,	Pittsburgh, Pa.,	83 B
Beekman, Leonard,	Bronxville, N. Y.,	51 C
Biggs, John, Jr.,	Wilmington, Del.,	42 C
Bigler, Paul Gray,	St. Augustine, Fla.,	12 H'm
Bingham, Albert Holbrook,	Sedro-Wooley, Wash.,	92 B
Bixler, Donald Shallenburgher,	Overbrook, Pa.,	42 H
Blake, Israel Octave, Jr.,	New York, N. Y.,	33 C

Blayney, Wilson Lord,	Riverside, Ill.,	53 C
Blumberg, Leo,	Jersey City, N. J.,	6 S W
Bonbright, Carl Windus,	Flint, Mich.,	51 C
Bowman, William McKnight,	Springfield, Ohio,	20 W W
Boyd, James Clement,	Upper Montclair, N. J.,	21 B
Bradley, Lee Carrington, Jr.,	Birmingham, Ala.,	34 H
Brakeley, Harry Heckman,	Bordentown, N. J.,	8 S E B
Brenner, Jacob Paul,	Youngstown, Ohio,	B, W B
Brewster, Daniel Baugh,	Baltimore, Md.,	81 H
Brewster, Sydney Erskine,	New York, N. Y.,	163 L
Bronson, Tyler Cook,	New York, N. Y.,	3 A, C
Bryan, Francis Theodore, IV,	St. Louis, Mo.,	22 '79 H
Buell, George Pope,	Pittsfield, Mass.,	441 C'y
Burch, Harry Jackson,	Washington, D. C.,	54 C
Burkelman, Martin,	Brooklyn, N. Y.,	38 L
Burns, John Hamilton, Jr.,	Wichita, Kan.,	2 C, H
Butts, Lucius McCutchen,	Vicksburg, Miss.,	11 H
Caesar, Charles Unger,	New York, N. Y.,	23 P
Campbell, Eno,	Hoboken, N. J.,	76 H
Carver, Alexander Burton,	Yonkers, N. Y.,	103 B
Cherry, George Denison,	Little Rock, Ark.,	44 '79 H
Clark, Arthur Tillotson,	Flushing, N. Y.,	9 N W
Clowney, Frank Sherman,	Atlantic City, N. J.,	33 B
Coffin, Stanton Best,	Minneapolis, Minn.,	11 S E B
Collins, Harold Bispham,	Philadelphia, Pa.,	42 H
Conine, Fred Webster,	Stratford, Conn.,	8 S E B
Cook, Clinton Salter,	Manasquan, N. J.,	92 B
Cooper, Norman Hilliard,	Belleville, N. J.,	9 W B
Crane, Edward Matthews,	Newark, N. J.,	22 P
Crane, Frederick Ralph,	Brooklyn, N. Y.,	3 A, H
Creese, James, Jr.,	Leetsdale, Pa.,	7 A, H
Cromelin, John Stafford,	Hackensack, N. J.,	64 L
Currie, Edward William,	Keyport, N. J.,	9 S E
Cushman, Holbrook Benezet,	New York, N. Y.,	7 S D
Cutting, Aaron Barrows,	New York, N. Y.,	62 H
Decker, John Debevoise,	Greenwich, Conn.,	101 P
De Gray, Henry Bazing,	Wyckoff, N. J.,	17 B
Dent, Elbert, Jr.,	Philadelphia, Pa.,	82 Nassau St.
Donnelly, Lochren,	St. Paul, Minn.,	24 B
Donoho, John Frederick,	Baltimore, Md.,	184 L
Dougherty, William McClure,	Millville, N. J.,	6 S M R

Dowd, Meredith Loveland,	Orange, N. J.,	52 L
Doyle, Erwin William,	Rome, N. Y.,	310 H'm
Dudgeon, Archibald,	New York, N. Y.,	311 C'y
Dunphy, Edwin Blakeslee,	Newark, N. J.,	11 W B
Eaby, Carl Reese, Jr.,	Lancaster, Pa.,	113 H
Egner, John Edmund,	Newark, N. J.,	33 B
Eldridge, Herbert Rucker, Jr.,	New York, N. Y.,	183 L
Eldridge, Richard Lyons,	New York, N. Y.,	183 L
England, Callan Edley,	Little Rock, Ark.,	44 '79 H
Erskine, Louis Gillespie,	New York, N. Y.,	17 B
Ewart, John J.,	Atlantic City, N. J.,	22 Madison St.
Ewing, Meredyth Handway,	Pittsburgh, Pa.,	3 S D
Fishburn, Junius Parker,	Roanoke, Va.,	22 C
Foster, Edwin Dorsey,	Cape May C. H., N. J.,	38 L
France, Leys Ainsworth,	Cleveland, Ohio,	122 L
Franks, Ralph Charlton,	Orange, N. J.,	41 '79 H
Gibboney, David Clarence, Jr.,	Philadelphia, Pa.,	8 W W
Godfrey, Samuel,	Atlantic City, N. J.,	113 H
Goerke, Rudolph Jonathan, Jr.,	Newark, N. J.,	2 E B
Goodspeed, Morton,	Boston, Mass.,	61 H
Gordon, Basil,	Washington, D. C.,	8 E W
Gordon, Harry Block, Jr.,	Bronxville, N. Y.,	131 H
Greason, Harold Stanton,	Newport, R. I.,	25 M D
Gregory, Gordon Clark,	New York, N. Y.,	112 H
Griffith, George Webster,	Ebensburg, Pa.,	101 H
Haaren, Ernest Charles,	New York, N. Y.,	162 L
Haffner, William Burton,	New York, N. Y.,	3 B
Halsey, Courtlandt Van Rensselaer,	New York, N. Y.,	65 H
Hammer, Wesley Thompson,	East Orange, N. J.,	63 P
Hampe, Warren Wilson,	Oval, Pa.,	5 A, C
Harper, Wendell Phillips,	Des Moines, Iowa,	102 B
Hayes, Edmund Stephen,	Eau Claire, Wis.,	31 P
Heimerdinger, Henry Liebmann,	New York, N. Y.,	100 P
Helm, Lynn, Jr.,	Los Angeles, Cal.,	111 L
Henry, Winder Laird, Jr.,	Cambridge, Md.,	3 A, C
Herendeen, Edward Gideon, Jr.,	Elmira, N. Y.,	62 H
Hillyer, Clive Nelson,	New York, N. Y.,	21 P
Hockmeyer, Victor Fuller,	Lowell, Mass.,	6 S E B
Huston, Walter Amos,	Saltillo, Pa.,	38 U
Jackes, Campbell,	St. Louis, Mo.,	28 Chambers St.
Janke, Felix Otto,	Plainfield, N. J.,	8 W B

Jarman, Shelby Hammond,	New York, N. Y.,	123 L
Jelke, Ferdinand, III,	Cincinnati, Ohio,	65 H
Jones, Francis Ilah, Jr.,	Ocean Grove, N. J.,	6 S W B
Kaesche, Max Baldwin, Jr.,	New York, N. Y.,	34 '79 H
Kauffmann, Philip Christopher,	Washington, D. C.,	112 L
Kazanjian, Bedros, Jr.,	New Rochelle, N. Y.,	63 H
Kendall, Louis Fairbanks,	Saranac Lake, N. Y.,	5 S E B
Kerper, Edmund Hoffecker,	Pottstown, Pa.,	5 S W
Kiehl, Marshall Babst,	Pittsburgh, Pa.,	41 L
Kimball, Alson Davis,	Garden City, N. Y.,	24 L
Klein, Albert Spencer, Jr.,	Chicago, Ill.,	182 L
Knight, Donald Branch,	Brooklyn, N. Y.,	64 L
Labouisse, William Huger,	New Orleans, La.,	61 L
La Force, William Watson,	Kansas City, Mo.,	5 S W B
Lane, Charles Seth, III,	Hagerstown, Md.,	28 Chambers St.
Lane, Philip,	Waltham, Mass.,	2 E B
Leeb, Brian Philpot,	South Orange, N. J.,	19 M D
Leslie, Donald Spence,	Minneapolis, Minn.,	35 L
Lewis, Hugh Romaine,	Bear Creek, Pa.,	61 H
Littell, Alfred Beatty,	Franklin, N. J.,	72 P
Look, Edward Townsend,	Greenwich, Conn.,	42 C
Lutz, Roland Bruce,	Philadelphia, Pa.,	4 S R
Lyman, William Clark,	Shanghai, China,	5 W W
Lyon, Howard Suydam,	Perth Amboy, N. J.,	20 S W
McCaddon, Joseph Terry, Jr.,	New York, N. Y.,	7 U P
McCague, Robert Harshe,	Sewickley, Pa.,	34 P
McCauley, Edwin Douglas,	Philadelphia, Pa.,	21 P
McDougal, Edward Dickinson, Jr.,	Riverside, Ill.,	182 L
Machin, James Allan,	Newark, N. J.,	7 S W
McIlvain, Edward Morton, Jr.,	New York, N. Y.,	43 H
McIlwain, George Knox,	Philadelphia, Pa.,	12 W B
McKeever, Gerald,	Jersey City, N. J.,	18 S E
McKown, Paul,	Martinsburg, W. Va.,	4 S R
McLaughlin, Marcellus Hood,	Germantown, Pa.,	53 B
McLennan, Donald,	Buffalo, N. Y.,	5 S W
*Mainland, Ralph Sinclair,	Oshkosh, Wis.,	28 Chambers St.
Manee, William Britton,	New York, N. Y.,	6 W W
Marshall, Richard Hughes,	Madison, Wis.,	309 H'm
Marvin, William Bryan,	Stroudsburg, Pa.,	47 N. Tulane St.
Mayer, William Stephens,	Johnstown, Pa.,	62 L
Michael, Berkeley Strictland,	Sioux City, Iowa,	132 H

* Died December 3, 1915.

Millinger, Walter Harold,	Pittsburgh, Pa.,	8 C, H
Moore, Frederick Lee,	New York, N. Y.,	13 S D
Morris, Kenneth Alexander,	Jacksonville, Fla.,	72 P
Murray, Arthur Benson,	Schenectady, N. Y.,	12 S E B
Nourse, Norman Crawford,	Boise, Idaho,	14 S D
Nowland, Paul Jennings,	Wilmington, Del.,	14 B
Oller, Richard Harley,	Brooklyn, N. Y.,	3 C, H'm
Palmer, Spencer Eccleston,	Glen Ridge, N. J.,	12 S E B
Planas, Harold Miguel,	New York, N. Y.,	2 Nassau St.
Poole, Allan King,	East Liverpool, Ohio,	142 L
Porter, Howard Curtis,	Evanston, Ill.,	10 E M W
Potter, Dickson Bayard,	New York, N. Y.,	56 C
Preston, Richard Greeley,	Lexington, Mass.,	63 P
Rankin, John Millington,	S. Charleston, Ohio,	83 P
Rankin, Stacy Barcroft, Jr.,	S. Charleston, Ohio,	83 P
Reidinger, Albert Dudley,	Madison, N. J.,	9 S W
Reynolds, William Wynkoop,	Scranton, Pa.,	9 S R
Rhodes, Leland Chandler,	Short Hills, N. J.,	44 H
Robertson, John Layland, Jr.,	Lowell, Mass.,	6 S E B
Rosenberg, Harry,	North Bergen, N. J.,	12 N E
Sawyers, Francis Lazelle,	Centerville, Iowa,	14 B
Scarritt, Arthur Davis,	Kansas City, Mo.,	5 S W B
Scobie, Jordan Ralston,	Omaha, Neb.,	8 E B
Selover, Howard Rutledge,	Minneapolis, Minn.,	11 S E B
Sherrerd, Sydney Donald,	Haddonfield, N. J.,	9 W B
Shotwell, David Rittenhouse,	Harrisburg, Pa.,	6 S D
Sinclaire, Douglas Cumming,	Corning, N. Y.,	5 A, C
Spencer, Meade Ashley,	Mansfield, Ohio,	20 S W
Springer, Frederic Easton,	Edwardsville, Ill.,	60 P
Stafford, John Waggaman,	New York, N. Y.,	1 U P
Steele, Henry Maynadier, Jr.,	Baltimore, Md.,	A, B
Stevenson, Stuart Riddle,	Schenectady, N. Y.,	83 Mercer St.
Stewart, Charles Irving,	Ossining, N. Y.,	16 Bank St.
Stewart, James Harold,	Harrisburg, Pa.,	E, E B
Stickney, Thomas Blanchard,	Englewood, N. J.,	Hill
Streetman, Sam, Jr.,	Houston, Texas,	73 P
Sulzberger, David Hays,	New York, N. Y.,	10 E M W
Taylor, John Chestnut, Jr.,	Shade Gap, Pa.,	18 M D
Taylor, Rainey Startup,	Middletown, N. Y.,	102 B
Ten Broeck, William Davis,	Overbrook, Pa.,	11 W B
Teng, Shao Ping,	Washington, D. C.,	19 N W

Thomas, Wilmer Jones,	Grenada, Miss.,	61 L
Thompson, George Stewart,	East Liverpool, Ohio,	34 C
Thompson, Kirk Illman,	Titusville, Pa.,	22 '79 H
Thompson, Robert Lindsay, Jr.,	Pittsburgh, Pa.,	34 '79 H
Tyler, Arthur Bromley,	Boston, Mass.,	82 P
Van Horn, Alfred, Jr.,	Scarsdale, N. Y.,	31 P
von Hasslacher, Harold,	Brooklyn, N. Y.,	9 A, H
Wair, Donald,	Laporte, Ind.,	8 C, H
Wallace, Charles Kenneth,	South Orange, N. J.,	19 M D
Warburton, Frederick Robert,	Paterson, N. J.,	8 S R
Warburton, William John,	New York, N. Y.,	16 W W
Ward, Clarence Arnold,	Rahway, N. J.,	6 S W B
Weller, Douglass McEldery,	Nashotah, Wis.,	52 L
Widenmann, Hans Adolf Karl,	Hoboken, N. J.,	13 E W
Wille, Frederick Bernhard,	South Orange, N. J.,	44 H
Williams, John Gates,	St. Louis, Mo.,	6 U P
Willson, William Addison,	Easton, Md.,	84 Nassau St.
Wilson, Foster Poullain,	St. Louis, Mo.,	64 Nassau St.
Wilson, Julius Lane,	New York, N. Y.,	102 P
Wilson, Marion Orr,	Binghamton, N. Y.,	11 S D
Winant, Cornelius,	New York, N. Y.,	7 S D
Womack, Weldon,	St. Paul, Minn.,	21 B
Wood, Henry Allyn,	Middletown, N. Y.,	102 P
Wright, Sydney Longstreth, Jr.,	Philadelphia, Pa.,	16 M D
Writer, Jasper,	Denver, Col.,	7 W W
Zunino, Frank Anthony, Jr.,	Brooklyn, N. Y.,	13 C

LITT.B. AND B.S. SOPHOMORES.....207

CANDIDATES FOR THE C.E. DEGREE

Alford, Kenneth Wellington,	Brooklyn, N. Y.,	13 P
Beaty, John Wesley,	Manzanola, Col.,	11 S D
Black, William Westcott,	Toledo, Ohio,	3 E B
Brashear, William Rector,	St. Louis, Mo.,	44 Park Pl.
Campbell, Nelson Irving,	Pittsburgh, Pa.,	10 N R
Corkran, Dudley Clarke,	Baltimore, Md.,	3 A, H
Foster, James Apker, Jr.,	Albany, N. Y.,	73 P
Frantz, Samuel Gibson,	Princeton, N. J.,	64 Battle Road
Gowing, Earl Parker,	Wilmette, Ill.,	3 S D
Harris, Dwight James,	Plainfield, N. J.,	309 H'm
Higgins, Edward Quigley,	Waverly, N. Y.,	2 S D
Hooper, James Edward,	Germantown, Pa.,	1 A, H

Howett, Lester V.,	Rochester, N. Y.,	15 Vandeventer Ave.
Jarvis, George Tibbals, II,	Indianapolis, Ind.,	1 S E
Johnson, Nathaniel Britton,	Princeton, N. J.,	44 Park Pl.
Kane, Edward Winslow,	Ossining, N. Y.,	106 H
Lawton, Sanford,	Longmeadow, Mass.,	8 M D
Matthews, Thomas Clark,	Sanibel, Fla.,	3 N R
Meirs, William Weightman,	Philadelphia, Pa.,	9 U P
Mills, James Foulds,	Princeton, N. J.,	8 N R
Norris, Alfred Edward,	Princeton, N. J.,	69 Alexander St.
Pardee, Frank, Jr.,	Hazleton, Pa.,	2 S D
Parisette, Oswald Jacob,	Brooklyn, N. Y.,	10 S E B
Parker, Robert William,	Jacksonville, Fla.,	112 H
Ross, James Spencer,	Harrisburg, Pa.,	4 S W B
Sipe, Harry Aaron,	Pittsburgh, Pa.,	83 B
Snow, Charles Carey,	Cleveland, Ohio,	1 E M W
Van Wart, William Harold,	Caldwell, N. J.,	34 C
Warden, Herbert Watson, Jr.,	Philadelphia, Pa.,	43 H

C.E. SOPHOMORES.....29

FRESHMAN CLASS, 1919

CANDIDATES FOR THE A.B. DEGREE

Agar, Herbert Sebastian,	New York, N. Y.,	47 University Pl.
Amen, John Harlan,	Exeter, N. H.,	6 A, C
Armour, Allison, II,	Princeton, N. J.,	14 C
Arrowsmith, William Walter	Weed, New York, N. Y.,	53 University Pl.
Bagby, Charles Todd, Jr.,	Baltimore, Md.,	3 W B
Bailey, George Olney,	Rome, N. Y.,	22 H'm
Bayer, Edwin Stanton, Jr.,	Mt. Kisco, N. Y.,	21 H
Beckhart, Benjamin Haggott,	Denver, Colo.,	16 Park Pl.
Bream, Paul Andrew,	Arendtsville, Pa.,	53 University Pl.
Brindle, Robert Hoover,	Hagerstown, Md.,	42 Wiggins St.
Bruce, David Kirkpatrick Este,	Ruxton, Md.,	141 H
Brune, Charles David Fisher,	Baltimore, Md.,	90 Nassau St.
Bulkley, Harold Kidder,	New York, N. Y.,	2 N D
Campbell, James Gilmore,	Butler, Pa.,	141 L
Christmas, Franklin Butler,	Fall River, Mass.,	2 N E
Cleveland, Richard Folsom,	Princeton, N. J.,	6 A, C
Cooke, Jay, II,	Philadelphia, Pa.,	73 H
Cooper, Frederick Stanley,	Rome, Ga.,	15 Edwards Pl.

Cresswell, Robert, III,	Philadelphia, Pa.,	73 H
Douglas, Edward Osborn,	Troy, N. Y.,	133 L
Dubia, Henry Franklin,	Chicago, Ill.,	7 W M W
Dunn, Edward Joseph,	Paterson, N. J.,	34 S E
Edgar, William John Brown, Jr.,	Jamesburg, N. J.,	6 N M R
Erdman, Charles Rosenbury, Jr.,	Princeton, N. J.,	72 B
Frazier, Harold Smeallie,	Franklin, N. Y.,	41 Hill
Goldsmith, Ralph,	South Orange, N. J.,	32 Vandeventer Ave.
Gray, William Steele, Jr.,	New York, N. Y.,	14 H'm
Greene, Alexander Macomb,	Merchantville, N. J.,	9 W M W
Griffiths, Walter Denison,	Spuyten Duyvil, N. Y.,	19 S W
Hargest, Thomas Sewell, II,	Harrisburg, Pa.,	47 University Pl.
Hargreaves, Paul Ledbeter,	Jamaica, N. Y.,	7 Park Pl.
Haring, Norman Walter,	Lancaster, Pa.,	10 Madison St.
Hillegass, Charles Edwin, Jr.,	Red Hill, Pa.,	7 N M R
Howley, John Guerin,	Pittsburgh, Pa.,	9 S E B
Hughes, William Dudley Foulke,	Newport, R. I.,	24 N E
Irvine, James Elliott,	Street, Md.,	5 N E
Jamison, Lemuel Foster,	Havre de Grace, Md.,	19 S M R
Jennings, Arnold Huff,	Philadelphia, Pa.,	6 E B
Johnson, Archibald De Baun,	Lincoln University, Pa.,	23 S E
Kennedy, Edgar Sloan,	Lansdowne, Pa.,	22 M D
Kilby, Oscar Marchant,	Anniston, Ala.,	88 Nassau St.
King, Donald Moore,	Pittsburgh, Pa.,	39 University Pl.
Kinnard, Leonard Richard,	Wynnewood, Pa.,	14 N W
Kirbach, William Conrad,	Wheeling, W. Va.,	9 N D
Kirkland, William Alexander,	Houston, Tex.,	39 University Pl.
Kretschmann, Philip Miller,	Philadelphia, Pa.,	14 S M R
Lamarche, Richard Francis,	New York, N. Y.,	13 A, H
Lamont, Robert Patterson, Jr.,	Evanston, Ill.,	103 H
Larkin, George Brandreth,	Ossining, N. Y.,	431 C'y
Leopold, James Morris, Jr.,	New York, N. Y.,	8 W M W
Leslie, Artemas Cameron,	Pittsburgh, Pa.,	39 University Pl.
Lloyd, Samuel, Jr.,	New York, N. Y.,	13 A, H
McConnell, Frank Junior,	Richmond Hill, N. Y.,	11 E B
McCulloch, Duncan, Jr.,	Glencoe, Md.,	10 Madison St.
McCune, John Robison,	Pittsburgh, Pa.,	71 L
McKnight, Robert Wilson,	Sewickley, Pa.,	15 Edwards Pl.
Marks, Arthur Wharton,	Hillburn, N. Y.,	C, E B
Martin, Herbert Keller,	Nazareth, Pa.,	31 N E
Mayer, Clinton Orth, Jr.,	Philadelphia, Pa.,	Hill

Mickey, Karl Burtner, Cleveland, O., 7 E M W
Mickey, Ronald Zeller, Cleveland, O., 7 E M W
Mills, Walter Edwin, Chicago, Ill., 105 P
Milne, John Cruickshank, II, Fall River, Mass., 31 University Pl.
Moore, Robert Grier, Chicago, Ill., Hill
Mortimer, Stanley, Jr., Roslyn, N. Y., 124 L
Moss, John Arthur, Reading, Pa., 3 S W B
Niles, Arthur Lucien, Jr., New York, N. Y., 2 U P
Norton, Paul Robinson, Reading, Pa., 47 N. Tulane St.
Parker, Cortlandt, III, Newark, N. J., 4 U P
Parker, Philip MacGregor, Morristown, N. J., 36 L
Paxton, William Miller, III, St. Davids, Pa., 53 L
Potter, Milton Grosvenor, Buffalo, N. Y., 54 H
Prentiss, Theron Loveland, New York, N. Y., 15 Edwards Pl.
Preyer, Arthur, Hague, Holland, 7 W B
Quay, Matthew Stanley, Pittsburgh, Pa., 80 P
Ramsay, Joseph Gales, Wilmington, Del., 14 Edwards Pl.
Reed, Lawrence Conway, New York, N. Y., 7 W M W
Rothermel, John Grim, Reading, Pa., 43 Vandeventer Ave.
Savage, Ernest Chauncey, Philadelphia, Pa., 461 C'y
Savidge, John Foster, New York, N. Y., 11 Alexander St.
Schmidt, Samuel Small, York, Pa., 263 C'y
Scudder, William Waterbury, Glastonbury, Conn., 53 University Pl.
Shaw, Albert, Jr., New York, N. Y., 411 C'y
Siedler, Howard Duane, Orange, N. J., 15 Edwards Pl.
Sloane, Cyril, Sands Point, N. Y., 84 P
Smith, Charles Morris, III, Providence, R. I., 15 Edwards Pl.
Smith, James Gerald, Denver, Colo., 32 Vandeventer Ave.
Sniffin, Robert Earl, Summit, N. J., 84 P
Sowards, John Auxier, Pikeville, Ky., 5 S D
Stone, William Edward, Jr., Peoria, Ill., 15 Edwards Pl.
Strong, Benjamin, III, Greenwich, Conn., 133 L
Strong, Louis Bergner, Plainfield, N. J., 19 Edwards Pl.
Symons, Noel Speer, Washington, D. C., 31 University Pl.
Taylor, Anson Wales Hard, New York, N. Y., 2 U P
Taylor, James Irwin, Trenton, N. J., 34 N E
Taylor, Walker, Jr., Wilmington, N. C., 10 A, H
Terrell, Lasater, Corpus Christi, Tex., 3 B, H
Thompson, Harry Carroll, Garrison P. O., Md., 141 H
Todd, James Roller, Hagerstown, Md., 42 Wiggins St.
Van Dusen, Henry Pitney, Philadelphia, Pa., 21 C

Van Meter, Louis William, Wenonah, N. J., 18 N E
Van Wyck, Allen, Ridgefield Park, N. J., Hill
Wallis, Keene Cornelius, Kansas City, Mo., 39 University Pl.
Walters, Sumner Francis Dudley, Newark, N. J., 46 Wiggins St.
Warren, Frank Dale, Jr., Plainfield, N. J., 34 L
Waters, William Pierce, Brooklyn, N. Y., 72 B
West, John Crawford, Beirut, Syria, 20 N W
Wight, Edward Van Dyke, Jr., Middletown, N. Y., 42 N E
Wilson, Walter Blaine, East Orange, N. J., 3 E B
Wintersteen, John, Philadelphia, Pa., 301 H'm
Young, Joseph Samuel, Allentown, Pa., 10 A, H

A.B. FRESHMEN.....111

CANDIDATES FOR THE LITT.B. OR B.S. DEGREE

Abbett, Thomas Hall., New York, N. Y., 8 S W B
Ackerman, James Hervey, Plainfield, N. J., 14 Edwards Pl.
Alyea, Edwin Paschal Dinsmore, Clifton, N. J., 1 S D
Ames, Wyllys Pittman, Montclair, N. J., 43 Vandeventer Ave.
Anderson, Andrew, Jr., St. Augustine, Fla., 12 B
Anderson, James Main, Jr., Pittsburgh, Pa., 9 S E B
Anspach, Marshall Reid, Milton, Pa., 53 University Pl.
Aronsohn, Nathan Henry, Paterson, N. J., 15 S D
Auerbach, Stephen Mayer, New York, N. Y., 66 H
Bade, William Henry, Brooklyn, N. Y., 19 University Pl.
Baer, Harold Meyer, Pittsburgh, Pa., 14 L
Baker, William Reginald, Jr., Madison, N. J., Hill
Ball, Grosvenor Lowrey, Lawrence, N. Y., 22 P
Barker, Francis Meserve, Baltimore, Md., 19 University Pl.
Barnett, Robert Fulton, Latrobe, Pa., 27 Vandeventer Ave.
Bauhan, George Louis Theodore, Jersey City, N. J., 32 Mercer St.
Beasley, John Hoke, Terre Haute, Ind., 64 Nassau St.
Beattie, Kenneth Wilfred, Murry Hill, N. J., 46 Wiggins St.
Bell, Charles Christian, Jr., Boonville, Mo., 105 H
Bell, William Wallace, Jr., Pittsburgh, Pa., 81 B
Bigelow, Donald Fairchild, St. Paul, Minn., 32 Mercer St.
Bitten, Robert Mooney, Atlantic City, N. J., 30 S E
Bleakley, George Rogers, Yonkers, N. Y., 15 Dickinson St.
Bleecker, Leonard Lispenard, Bloomfield, N. J., 8 Dickinson St.
Boardman, Lawrence, St. Paul, Minn., 138 Nassau St.
Bond, George Arthur, South Orange, N. J., 72 L
Bostick, Bonham Hagood, Switzerland, S. C., 10 P

Bowman, Harold Mark, Montclair, N. J., 8 W B
Bray, Allen Richard, Arlington Heights, Ill., 12 M D
Brown, James Douglas, Richmond, Va., 35 N E
Bryan, James Elseworth, Middletown, O., 19 University Pl.
Burchell, Fford, New York, N. Y., 18 W W
Burger, Fairfax Carter, New York, N. Y., 8 L P
Butler, Francis David, St. Paul, Minn., 15 University Pl.
Butler, Stuart Markle, St. Louis, Mo., 12 A, H
Buzby, George Carroll, Philadelphia, Pa., Hill
Carkener, Stuart, II, Kansas City, Mo., 153 L
Carter, Frederick Brush, Huntington, N. Y., 15 S M R
Carter, Kenneth King, Newark, N. J., 12 U P
Casey, Carl Mallan, Lynchburg, Va., Hill
Cerf, Louis Amadee, Jr., Montclair, N. J., 343 C'y
Clark, Henry Morse, McKeesport, Pa., 19 University Pl.
Clark, Robert Dean, St. Paul, Minn., 32 Mercer St.
Clark, William Lee, Harrisburg, Pa., 7 S W B
Cohen, Roger Stahel, Washington, D. C., 66 C
Comly, Samuel Newbold, Port Chester, N. Y., 10 Madison St.
Comstock, Francis Adams, South Orange, N. J., 43 Vandeventer Ave.
Cook, Culver Howard, Omaha, Neb., 58 Wiggins St.
Cooke, John, Paterson, N. J., 71 L
Cooper, Edward Nelson, Jr., Camp Hill, Pa., 10 Dickinson St.
Cox, Ira James, New Salem, Pa., 19 W W
Cox, William Henry Dickinson, Newark, N. J., 11 Bank St.
Cudlipp, Chandler, Jersey City, N. J., 45 University Pl.
Davis, John Charles, Denver, Colo., 6 E B
Denby, James Orr, Detroit, Mich., 432 C'y
Dibert, Grant Armstrong, Pittsburgh, Pa., Hill
Dibrell, Edwin Richard, Little Rock, Ark., 39 University Pl.
Dickinson, Hamilton Maynard, Providence, R. I., 91 P
Downing, Bradley Carey, York, Pa., 40 N E
Doyle, Henry Watkins, Little Rock, Ark., 22 H'm
Dreyfuss, Samuel Wolf, Pittsburgh, Pa., 4 M D
Du Bois, Louis Talman, East Orange, N. J., 107 P
Dunn, Robert Hayes, Philadelphia, Pa., 20 N W
Dunn, Richard Price, Jacksonville, Fla., 30 Mercer St.
Dunn, Wadsworth Clark, New York, N. Y., 33 L
Etheridge, Harry Augustus, Jr., Atlanta, Ga., Hill
Evanns, Abner Joseph, Munria, Persia, 105 H S

Fahys, Joseph, II, New York, N. Y., 19 University Pl.
Fairgrieve, James Temple, Fulton, N. Y., 15 N M R
Finney, Eben Dickey, Baltimore, Md., 42 P
Fish, Howard Mac Farland, Erie, Pa., Hill
Fletcher, William Meade, Philadelphia, Pa., 3 E W
Foresman, Robert Holmes, Ridley Park, Pa., 8 N W
Fowler, Eric Anderson, New York, N. Y., 7 B
Frankel, George Aschheim, Park City, Utah, 19 Bank St.
Fraser, Albert Averell, South Orange, N. J., 45 University Pl.
Funk, George Weldon, Mc Lean, Ill., 51 B
Gardner, Edward Read, St. Louis, Mo., 11 P
Goldman, Richard Silas, New York, N. Y., 31 University Pl.
Gregory, Thomas Watt, Jr., Washington, D. C., 84 B
Groover, Allen Bernard, Jacksonville, Fla., 30 Mercer St.
Guerin, Samuel Vincent, Asbury Park, N. J., 19 University Pl.
Guilbert, Francis Warburton, Racine, Wis., 8 S W B
Harris, Arthur Kempner, New York, N. Y., 66 H
Hawkins, Curtiss Gardiner, El Paso, Tex., 31 University Pl.
Hax, William Balthaser Frederick, Roland Park, Md., 1 E B
Hayes, Scott Russell, Toledo, Ohio, 8 Dickinson St.
Heinsohn, Augereau Gray, New York, N. Y., 17 E W
Henderson, George Watt, Uniontown, Pa., 14 Edwards Pl.
Hicks, Wenman Armstrong, Pittsburgh, Pa., 4 B
Hill, James Pearson, Smyrna, Del., 462 C'y
Hilton, Alexander Elias, Newark, N. J., 15 S D
Hockaday, James Kellogg Burnham, Kansas City, Mo., 42 P
Holden, Lansing Colton, Jr., New York, N. Y., 2 N D
Holman, Carl Elsworth, Newark, N. J., 15 W W
Humphrey, Watts Sherman, Jr., Saginaw, Mich., 95 P
Ill, Herbert Milton, Newark, N. J., 4 A, H
Jacobs, Elihu Arthur Samuel, Lakewood, N. J., 15 University Pl.
Jenckes, Stephen Hunt, Providence, R. I., Hill
Jenkins, Alfred Elliotte, Pittsburgh, Pa., 5 B
Jennings, Albert Gould, Jr., New York, N. Y., 14 H'm
Jones, Benjamin Franklin, Pittsburgh, Pa., 15 Edwards Pl.
Jones, Henry Kirkland, Jr., Detroit, Mich., 2 C, H'm
Keller, Harry Pardee, Hazleton, Pa., 42 P
Kelley, Donald Wood, St. Louis, Mo., 143 H
Kelley, William Boulton, Baltimore, Md., 42 P
King, Gilbert, Washington, D. C., 15 University Pl.
King, John Bruce, Washington, D. C., 15 University Pl.

Kirkendall, Freeman Bourdette, Omaha, Neb., 31 University Pl.
Knower, Henry Du Barry, Cincinnati, O., 9 E W
Knowlson, Elms Thexton, Detroit, Mich., 106 P
Kuser, John Dryden, Bernardsville, N. J., 362 C'y
Lawson, Oliver Morrison, New York, N. Y., 106 P
Leinbach, Luther Richard, Wyomissing, Pa., 35 S E
Lewis, Thomas McDowell Nelson, Watertown, Wis., 12 M D
Lineaweaver, Thomas Harbaugh, Lebanon, Pa., 31 University Pl.
Long, Henry Coleman, Uniontown, Ala., 31 University Pl.
Lord, Thomas Coatsworth, New York, N. Y., 15 Edwards Pl.
Luke, Donald Keith, New York, N. Y., Hill
Lybolt, Fred, Port Jervis, N. Y., 32 Mercer St.
Lyons, Maxwell J., Little Rock, Ark., 32 Vandeventer Ave.
McCandless, Lansden, St. Louis, Mo., 11 P
McCormick, Lawrence, Chicago, Ill., 14 Edwards Pl.
MacCreadie, John Harland, Lawrence, Mass., 25 N E
McDougal, Robert Davis, Jr., Peoria, Ill., 6 B
McGean, Ralph Lyman, Cleveland, O., 14 Edwards Pl.
McIlvain, Sidney Leoser, Reading, Pa., 3 S W B
McKee, Ralph Dyer, Bellevue, Pa., 33 N E
McMaster, John Dennis, Jersey City, N. J., 12 S W B
McQuiston, Charles Fitch, Dobbs Ferry, N. Y., 15 Edwards Pl.
Macfarlane, James Willing, Pittsburgh, Pa., 10 P
Makepeace, Roderick Fairchild, Providence, R. I., 39 University Pl.
Mandel, David, Perth Amboy, N. J., 29 S E
Manny, Edmond Scarritt, St. Louis, Mo., 143 H
Maxwell, Howard Washburn, Jr., New York, N. Y., 19 University Pl.
Maxwell, John Courtlandt, Chicago, Ill., 28 Vandeventer Ave.
May, John Newman, Summit, N. J., 95 P
Meriwether, Gilmer, Jr., Kansas City, Mo., 46 Wiggins St.
Miles, Edward Gallup, Asheville, N. C., 15 University Pl.
Millard, Austin Jayne, Newton, N. J., 10 N M R
Miller, Armonde Kelsey, Olean, N. Y., 85 P
Mirsky, Leo Philo, New York, N. Y., Hill
Montgomery, Archibald Moore, New York, N. Y., 10 W W
Moore, George Dorrance, East Orange, N. J., F, W B
Moore, Theodore Clement, Plainfield, N. J., 11 N M R
Morgan, Daniel Clarkson, Willsboro, O., 84 B
Mravlag, Paul Victor, Elizabeth, N. J., 6 B
Munsell, Elmer Ward, Buffalo, N. Y., 14 M D

Nicholas, Ralph Albert, Butler, Pa., 9 Park Pl.
Nimick, William Kennedy, Pittsburgh, Pa., 141 L
Norris, Henry Martin, Princeton, N. J., 69 Alexander St.
Norton, Arthur Leigh, New York, N. Y., 23 M D
Olmstead, Paul Smith, Robbinsville, N. J., 13 Bank St.
Orth, Paul William, Steelton, Pa., 244 C'y
Page, Lawrence Rufus, Olean, N. Y., 85 P
Parker, John Floyd, New York, N. Y., 30 Mercer St.
Parmele, Henry Gilbert Woodruff, Staten Island, N. Y., 121 L
Paul, Robert James Tait, Camden, N. J., 9 W M W
Peters, Thomas Darlington, Brooklyn, N. Y., 23 M D
Petterson, Gerald Ross, Princeton, Minn., 9 S W B
Pollard, Robert Sabin, Chatham, N. J., 12 S W B
Potter, William Clarkson, New York, N. Y., 116 B
Price, Paul Wakeman, Glen Ridge, N. J., 31 University Pl.
Proudfit, Edwin Hasbrouck, Westfield, N. J., 17 M D
Putnam, William Allen, Brooklyn, N. Y., 109 P
Quinn, William Patterson, New Castle, Pa., Hill
Raftery, John Howard, Geneva, Ill., 15 University Pl.
Ralston, Joseph Vivian, Columbus, O., 7 E W
Randall, Richard Hai ding, Baltimore, Md., 263 C'y
Raymond, Valentine Kirk, Brooklyn, N. Y., 28 N E
Read, Frederick Allerton, Jr., Roselle, N. J., 72 L
Rich, John Baldwin, Baltimore, Md., 15 Edwards Pl.
Richardson, Frank Snyder, Bernville, Pa., 12 S W
Rinn, Jackson Philip, Chicago, Ill., 9 B
Robbins, Milton Herbert, Hightstown, N. J., 18 Madison St.
Robins, Thomas, Jr., Stamford, Conn., 31 University Pl.
Rogers, Arthur Alan, Minneapolis, Minn., 9 S W B
Rouse, Robert Greene, Newton, N. J., 307 H'm
Russell, Robert Bromwell, Jr., Liberty Grove, Md., 8 N E
Ruth, George Byron, Marshalltown, Iowa, Hill
Sailer, Randolph Clothier, Englewood, N. J., 2 D, H
Samson, Hudson Gilmore, Pittsburgh, Pa., 81 B
Samstag, Henry Robert, New York, N. Y., 21 H
Schaefer, Bernhard Karsch, New York, N. Y., 81 P
Schaefer, John Louis, Jr., New York, N. Y., 81 P
Schmalz, Joseph Stagg, Buffalo, N. Y., 32 Mercer St.
Schroeder, Lyra Schweke, St. Louis, Mo., 12 A, H
Self, Sydney Baldwin, South Orange, N. J., 32 Vandeventer Ave.
Semans, William Ritchie, Uniontown, Pa., 15 Edwards Pl.

Senseman, John Shaffer, Harrisburg, Pa., 47 University Pl.
Seymour, McNeil Vernam, Jr., St. Louis, Mo., 12 A, H
Shannon, Randolph William, Goldfield, Nev., 14 U P
Sharpless, Samuel Jones, Philadelphia, Pa., 88 Nassau St.
Sidler, Frank William, Danville, Pa., 31 University Pl.
Sienkiewicz, Casimir, Bialystok, Russian Poland, 41 N E
Skinner, George Dickson, Gouverneur, N. Y., 7 S M R
Sloan, David William, Jr., Cumberland, Md., 10 M D
Sloan, William Eyres, Jr., Rochester, N. Y., 24 P
Synder, Franklin Faust, Lancaster, Pa., 10 Madison St.
Spencer, Joseph Wilbur, Jr., South Orange, N. J., 2 D, H
Sprague, Irvin Auchincloss, Jr., New York, N. Y., 33 L
Stephenson, Robert Houston, Indianapolis, Ind., 15 University Pl.
Stoetzer, John James Brown, Fairmont, W. Va., 14 Edwards Pl.
Strater, Henry Hyacinth, Louisville, Ky., 3 B, H
Street, Donald MacQueen, Chicago, Ill., 15 University Pl.
Streichenberg, Carl Frederick Albert, Glen Ridge, N. J., 31 University Pl.
Studdiford, William Emory, Jr., New York, N. Y., 36 L
Taggart, Edward Byron, Indianapolis, Ind., 8 Dickinson St.
Talbert, William Brownell, Jr., Lexington, Ky., 12 B
Taylor, Irving Henry, Pointe aux Pins, Mich., 3 W B
Taylor, John Henry Ling, New York, N. Y., 46 L
Teich, Jacob, Trenton, N. J., Trenton, N. J.
Terry, Arthur, Jr., Short Hills, N. J., 104 P
Thomas, Gerald Provost, Flushing, N. Y., 15 Edwards Pl.
Thorington, Richard Wainwright, Philadelphia, Pa., 108 P
Toland, Owen Jones, Philadelphia, Pa., 104 P
Townley, William Richard, Newark, N. J., 10 N W
Townsend, Charles Howard, Orange, N. J., Hill
Tracy, Frederick Lathrop, Scranton, Pa., 13 M D
Trostle, James Clinton, Dillsburg, Pa., 28 S E
Upshaw, Richard Webb, Jr., St. Louis, Mo., 8 U P
Urmy, Herbert Saxe, Newark, N. J., 7 S W
Van Deventer, Philip, Plainfield, N. J., 11 N M R
Waller, Ellis Julian, Kewanee, Ill., 343 C'y
Walter, Paul Chamberlin, Harrisburg, Pa., 39 University Pl.
Walton, Mark White Woodworth, Chicago, Ill., 1 U P
Warren, Hamilton Martin, New York, N. Y., 161 C'y
Washburn, Robert Hazelett, El Paso, Tex., 47 University Pl.
Waterbury, Stephen White, Elizabeth, N. J., 54 H

Webster, Samuel Leverett, New York, N. Y., 53 University Pl.
*Wells, Ephraim Stockton, Madison, N. J., 13 N E
Wheeler, Henry Lamont, Jr., Roselle, N. J., 8 S M R
Whitman, Raymond Corwin, Newark, N. J., 11 Bank St.
Wilbur, Franklin Lloyd, Asbury Park, N. J., 19 University Pl.
Williams, Chester Irving, New York, N. Y., 153 L
Windels, Arthur Edward, Brooklyn, N. Y., 62 Wiggins St.
Winn, John Jacob, Mount Sterling, Ky., 4 N M R
Wrightson, James Thomas, Easton, Md., 15 Edwards Pl.
Wulp, George Adolf, New York, N Y., 12 Park Pl.
Yates, Arthur, Rochester, N. Y., 5 U P
Yeomans, Edwin Simpson, Kansas City, Mo., 153 L

LITT.B. AND B.S. FRESHMEN.....241

CANDIDATES FOR THE C.E. DEGREE

Auger, Louis Francis, Ridgewood, N. J., 15 University Pl.
Cabell, Philip Francis, New York, N. Y., 32 Vandeventer Ave.
Charles, Martin George, Brooklyn, N. Y., 11 E B
Davis, Bronson Hawley, Bridgeport, Conn., 31 University Pl.
Dingee, Alexander Loxley Massey, Paoli, Pa., 53 L
Dodd, John Allison, Bloomfield, N. J., 80 P
Elgin, Charles Porter, Columbus, O., 18 Madison St.
Freck, Stanley Grier, Williamsport, Pa., 19 University Pl.
Frost, Harry Washington, Jr., Detroit, Mich., 14 Edwards Pl.
Garrigues, William Alfred, Jr., Plainfield, N. J., 45 University Pl.
Georgi, Edwin Albert, Nyack, N. Y., 5 S E B
Grimke, Frederic Drayton, New York, N. Y., 15 Edwards Pl.
Guy, David Wade, St. Louis, Mo., 11 Alexander St.
Hasslacher, Carl Alfred, New York, N. Y., Hill
Helm, Thomas Oliver, Jr., Bowling Green, Ky., 23 N E
Hill, Roland Everett, East Liverpool, O., 28 Vandeventer Ave.
Keenan, Edmond Thomas, Brooklyn, N. Y., 39 N E
Kissam, Philip, Orange, N. J., 133 L
Ludlow, Edward Hartwell, Evanston, Ill., 16 E W
McCormick, George Boldt, Chicago, Ill., 14 Edwards Pl.
McDougal, David Blean, Riverside, Ill., 9 B
McGraw, Curtis Whittlesey, New York, N. Y., 51 B
Moore, Milton Darlington, Avondale, Pa., 14 S E
Morris, Wistar, Haverford, Pa., 10 S D
Muzzy, Franklin Goodspeed, Paterson, N. J., 4 A, H
Newlin, John Verplanck, Whitforce, Pa., Hill
Norcross, Leonard Hulit, Hightstown, N. J., 108 Nassau St.

* Died September 24, 1915.

Palmer, Robert Judson,	Brooklyn, N. Y., 8 Dickinson St.
Proctor, Lawrence Martin,	Washington, D. C., Hill
Pyle, Godfrey,	Wilmington, Del., 17 Edwards Pl.
Read, Cecil,	St. Paul, Minn., 15 University Pl.
Rickerson, Wildey Clegg,	New York, N. Y., 10 W B
Saville, George Demarest,	New York, N. Y., 14 Edwards Pl.
Smith, Howard Malcom,	Brooklyn, N. Y., Hill
Starr, Leopold Eidlitz,	Princeton, N. J., 56 Bayard Lane
Thomas, Wilber Cover,	Denver, Colo., 16 S E
Timmerman, Louis Felix, Jr.,	Leonia, N. J., 15 Dickinson St.
Vance, Robert Raschig,	Columbus, O., 14 Edwards Pl.
Vaughn, George Augustus, Jr.,	Brooklyn, N. Y., 13 P
Verner, Eyvind Melsom,	Oakmont, Pa., 62 Wiggins St.
Whitney, William Beaumont, Jr.,	Philadelphia, Pa., 10 S D
Whittingham, Augustin Monroe,	Millburn, N. J., Hill
Wren, William Wood,	Frederick, Md., 2 W W

C.E. FRESHMEN.....43

STUDENTS QUALIFYING FOR REGULAR STANDING

Adams, Robert F.,	Fahan, Londonderry, Ireland, 34 B S
Avery, Frederick Delano,	Grand Rapids, Mich., 7 B
Bell, Roland Edgar,	Montclair, N. J., 134 L
Bippus, George James,	Huntington, Ind., 10 S W B
Bowers, Raymond Henry,	Massillon, Ohio, 3 N E
Bowman, Johnston Alexander,	Chicago, Ill., 164 Nassau St.
Buchanan, Joseph Clark,	Chambersburg, Pa., 12 C
Cheng, Ssu-tsung Ta-yu,	Washington, D. C., 14 Park Pl.
Cooper, William Prentice,	Shelbyville, Tenn., 13 W W
Cotton, William Miller,	Louisville, Ky., 91 B
Cromer, Josiah Miner,	Vermillion, S. D., 28 Vandeventer Ave.
Dodd, John Lewis,	Louisville, Ky., 5 E W
Eddy, William Alfred,	Peekskill, N. Y., Murray-Dodge
Faison, John Butler,	Jersey City, N. J., 62 B
Geissinger, Morris Newton,	Stroudsburg, Pa., 47 N. Tulane St.
Glorieux, Gilbert Robertson,	Irvington, N. J., 5 N W
Grinnell, Henry Lawrence,	Grand Rapids, Mich., 21 L
Guild, Herbert Hamilton,	Topeka, Kan., 15 M D
Hall, Robert Hayes,	Conneautville, Pa., 18 Madison St.
Hamilton, Maxwell McGaughey,	Sioux City, Iowa, 132 H
Harvey, Herbert Hogue,	Newtown, Pa., 47 N. Tulane St.
Jewett, William van Duyn,	Plainfield, N. J., 14 E W

Jones, James McLain,	Springfield, Mo.,	12 Park Pl.
Latham, James Hoblit,	Tulsa, Okla.,	103 H
McClintock, Robert Johnson,	Lexington, Ky.,	91 B
Mackay, Donald Kenneth,	New York, N. Y.,	13 N D
McNulty, John Owen,	Columbus, Ga.,	7 Park Pl.
Marsh, Allyn Jay,	New York, N. Y.,	352 C'y
Mathews, Daniel Leeds,	Oceanville, N. J.,	22 Madison St.
Montgomery, Rodman Bowne,	New York, N. Y.,	82 Nassau St.
Nixon, Stanhope Wood,	Metuchen, N. J.,	2 L P
Phillips, George Warren,	Helmetta, N. J.,	60 University Pl.
Raymond, Ralph Williams,	Akron, Ohio,	7 B, H
Repass, William Carlyle,	Russellville, Ky.,	47 University Pl.
Richardson, Lee Hutchings, Jr.,	Olmsted Falls, O.,	21 M D
Speers, Wallace Carter,	New York, N. Y.,	53 B
Toland, Edward Dale,	Wynnewood, Pa.,	3 U P
Wang, Knochun Penn,	Washington, D. C.,	14 Park Pl.
West, Harry Derrickinson,	Kingston, N. J.,	Kingston, N. J.
Wiegand, Charles Oliver,	St. Louis, Mo.,	6 U P
Wiese, Milton Valentine,	Bronxville, N. Y.,	55 C
Winter, John Harold,	Green Bay, Wis.,	62 B
Wylie, William Dale,	Lisbon, Ohio,	Murray-Dodge

STUDENTS QUALIFYING FOR REGULAR STANDING.....43

STUDENTS PURSUING PARTIAL COURSES

Besson, Lino,	New York, N. Y.	24 Madison St.
Gibson, William,	Newcastle-on-Tyne, England,	303 H S
Greyverstein, Jan Hendrik Jacobus,	Princeton, N. J.	80 Alexander St.
Hewitt, Theron,	Williamsburg, Pa.	18 S M R
Kagawa, Toyohiko,	Kobe City, Japan	21 B S

STUDENTS PURSUING PARTIAL COURSES.....5

GENERAL SUMMARY

Officers of Instruction and Administration

Trustees,	32
Faculty and Instructors,	188
Assistants in Instruction,	25
Officers of Administration,	16

Students

Graduate School		
Fellows,	42	
Graduate Scholars,	9	
Part Time Assistants,	21	
Other Graduate Students,	104	
		176
School of Electrical Engineering		
Second Year,	5	
First Year,	4	
		9
Undergraduates		
Senior Class		
A.B.,	109	
Litt.B.,	137	
B.S.,	38	
C.E.,	25	
		309
Junior Class		
A.B.,	105	
Litt.B.,	169	
B.S.,	39	
C.E.,	28	
		341
Forward		835

Brought forward		835
Sophomore Class		
A.B.,	101	
Litt.B. and B.S.,	207	
C.E.,	29	
		337
Freshman Class		
A.B.,	111	
Litt.B. and B.S.,	241	
C.E.,	43	
		395
Students Qualifying for Regular Standing,		43
Students Pursuing Partial Courses,		5
Total for the year 1915-1916		1615

SUMMARY OF STUDENTS BY STATES

	G.	E.E.	Sr.	Jr.	So.	Fr.	Q.	Par.	Total
New York	16	0	70	90	79	91	6	1	353
Pennsylvania	40	2	68	78	63	79	5	1	336
New Jersey	22	6	72	75	67	82	8	1	333
Ohio	6	0	10	17	15	11	4	0	63
Maryland	5	0	8	10	11	20	0	0	54
Illinois	3	0	7	11	8	18	1	0	48
Missouri	7	0	5	6	11	14	2	0	45
Massachusetts	3	0	4	7	13	3	0	0	30
Dist. of Columbia	1	0	8	5	4	6	2	0	26
Connecticut	3	0	8	1	5	4	0	0	21
Minnesota	1	0	3	3	6	8	0	0	21
Kentucky	3	0	3	2	3	5	4	0	20
California	7	0	6	2	3	0	0	0	18
Florida	0	0	4	3	6	3	0	0	16
Indiana	5	0	3	1	3	3	1	0	16
Colorado	2	0	2	1	6	4	0	0	15
Michigan	1	0	1	3	1	6	2	0	14
Wisconsin	2	0	2	3	4	2	1	0	14
Delaware	1	0	1	4	3	3	0	0	12
Virginia	7	0	1	0	2	2	0	0	12
Rhode Island	2	0	0	1	2	5	0	0	10
Texas	2	0	0	2	2	4	0	0	10
Tennessee	2	0	4	2	0	0	1	0	9
West Virginia	2	0	2	1	1	2	0	0	8
Arkansas	1	0	1	0	2	3	0	0	7
Iowa	1	0	1	0	3	1	1	0	7
Alabama	1	0	2	0	1	2	0	0	6
Kansas	2	0	1	0	2	0	1	0	6
Georgia	1	0	0	1	0	2	1	0	5
Nebraska	0	0	1	0	2	2	0	0	5
North Carolina	2	0	0	1	0	2	0	0	5
Maine	4	0	0	0	0	0	0	0	4
New Hampshire	0	0	2	1	0	1	0	0	4
Louisiana	0	0	1	1	1	0	0	0	3
Oklahoma	1	0	0	1	0	0	1	0	3
South Carolina	0	0	0	2	0	1	0	0	3
Forward	156	8	301	335	329	389	41	3	1562

	G.	E.E.	Sr.	Jr.	So.	Fr.	Q.	Par.	Total.
Brought forward	156	8	301	335	329	389	41	3	1562
Washington	0	0	0	1	2	0	0	0	3
Idaho	0	0	0	1	1	0	0	0	2
Mississippi	0	0	0	0	2	0	0	0	2
Oregon	1	0	1	0	0	0	0	0	2
Nevada	0	0	0	0	0	1	0	0	1
New Mexico	0	0	1	0	0	0	0	0	1
North Dakota	1	0	0	0	0	0	0	0	1
South Dakota	0	0	0	0	0	0	1	0	1
Utah	0	0	0	0	0	1	0	0	1
Wyoming	0	0	0	1	0	0	0	0	1
China	5	0	2	0	2	0	0	0	9
Canada	4	0	0	1	0	0	0	1	6
Syria	0	0	1	2	0	1	0	0	4
Japan	2	0	0	0	0	0	0	1	3
Ireland	1	0	0	0	0	0	1	0	2
Turkey	0	0	2	0	0	0	0	0	2
Brazil	0	1	0	0	0	0	0	0	1
Ceylon	1	0	0	0	0	0	0	0	1
Cuba	1	0	0	0	0	0	0	0	1
England	1	0	0	0	0	0	0	0	1
France	0	0	0	0	1	0	0	0	1
Holland	0	0	0	0	0	1	0	0	1
India	1	0	0	0	0	0	0	0	1
Persia	0	0	0	0	0	1	0	0	1
Russian Poland	0	0	0	0	0	1	0	0	1
Scotland	1	0	0	0	0	0	0	0	1
South Africa	1	0	0	0	0	0	0	0	1
Switzerland	0	0	1	0	0	0	0	0	1
Total	176	9	309	341	337	395	43	5	1615

ABBREVIATIONS

A S, Alexander Hall, Seminary.
B, Blair Hall.
B S, Brown Hall, Seminary.
C, Campbell Hall.
C'y, Cuyler Hall.
E B, East Entry, David Brown Hall.
E M W, East Middle Entry, Witherspoon Hall.
E W, East Entry, Witherspoon Hall.
G C, Graduate College.
H S, Hodge Hall, Seminary.
H, Holder Hall.
H'm, Hamilton Hall.
L, Stafford Little Hall.
L P, Lower Pyne Building.
M D, Middle Entry, Albert B. Dod Hall.
N, Nassau Hall.
N D, North Entry, Albert B. Dod Hall.
N E, North Entry, Edwards Hall.
N M R, North Middle Entry, Reunion Hall.
N R, North Entry, Reunion Hall.
N W, North Entry, West College.
P, Patton Hall.
S D, South Entry, Albert B. Dod Hall.
S E B, South East Entry, David Brown Hall.
S E, South Entry, Edwards Hall.
S M R, South Middle Entry, Reunion Hall.
S R, South Entry, Reunion Hall.
S W, South Entry, West College.
S W B, South West Entry, David Brown Hall.
U, University Hall.
U P, Upper Pyne Building.
W B, West Entry, David Brown Hall.
W M W, West Middle Entry, Witherspoon Hall.
W W, West Entry, Witherspoon Hall.
'79 H, Seventy-nine Hall.

DIRECTORY

OF OFFICERS AND STUDENTS IN ALL DEPARTMENTS OF THE UNIVERSITY

The name of every officer is printed in SMALL CAPITALS. The number in parenthesis after the name indicates the page in the catalogue on which the name appears.

The names of students are followed by the designation of their several classes (*f*, Fellow; *g*, Graduate Student; *ee*, School of Electrical Engineering; *Sr.*, Senior; *Jr.*, Junior; *So.*, Sophomore; *Fr.*, Freshman; *q*, Student Qualifying for Regular Standing; *Par.*, Student Pursuing Partial Course); the name of each undergraduate is followed also by an abbreviation indicating the degree for which he is a candidate, viz., *a*, Bachelor of Arts; *l*, Bachelor of Letters; *s*, Bachelor of Science; *ce*, Civil Engineer.

The abbreviations of the residences of officers and students are found on page 511.

Abbett, L., Jr., *Sr. a* 2 W M W
Abbett, T. H., *Fr. l.* or *s.* 8 S W B
ABBOTT, F. F., *Professor* (24) 62 Battle Road
Abshire, J. E., *g* 91 G C
Ackerman, C. M., *g* 301 H S
Ackerman, J. H., *Fr. l* or *s* 14 Edwards Pl.
ADAMS, E. P., *Professor* (24) 12 Nassau St.
Adams, R. F., *q* 34 B S
ADRIANCE, W. M., *Ass't Professor* (29) Lawrenceville Road. R. F. D. 2
Agar, H. S., *Fr. a* 47 Univ. Pl.
Agar, W. M., *Sr. s* 2 B
ALEXANDER, J. W., II, *Instructor* (35) 34 Cleveland Lane
Alexander, V. W., *Sr.* a 363 C'y
Alexandre, F. F., *Jr. l* 11 H'm
Alford, K. W., *So. ce* 13 P
Alleman, W. Y., *So. a* 3 S R
Allen, W. McC., *So. l* or *s* A, B
Alley, J. G., *Jr. l* 14 '79 H
Alton, W. C. W., *Sr. a* 63 L
Alyea, E. D., *Sr. a* 24 M D
Alyea, E. P. D., *Fr. l* or *s* 1 S D
Amacker, D. M., *Jr. a* 5 W B
Amen, J. H., *Fr. a* 6 A, C
Ames, K. L., Jr., *Jr. a* 90 Nassau St.
Ames, W. P., *Fr. l* or *s* 43 Vandeventer Ave.
Anderson, A., Jr., *Fr. l* or *s* 12 B
Anderson, G. G., *g* 4 B, G C
Anderson, J. M., Jr., *Fr. l* or *s* 9 S E B
Anderson, L. L., Jr., *So. a* 5 E B
Anderson, T. H., Jr., *Jr. l* 2 S E B
ANDERSON, W. E., *Assistant* (38) 35 Park Pl.
Annin, W. S., *Jr. l* 9 N E
Anspach, M. R., *Fr. l* or *s* 53 Univ. Pl.
Armour, A., II, *Fr. a* 14 C
Armstrong, H. F., *Sr. a* 231 C'y
Armstrong, J. S., *Sr. l* 94 P
Armstrong, S. W., *So. l* or *s* 94 P
Arnold, C. F., *Jr. a* 12 S D
Arnold, C. L., *So. a* 17 S E
Arnold, D. R. J., *So. l* or *s* 121 L
Aronsohn, N. H., *Fr. l* or *s* 15 S D

Arrott, C. R., *So. l* or *s* 31 C
Arrowsmith, W. W. W., *Fr. a* 53 Univ. Pl.
Arthur, R. P., *Sr. l* 412 C'y
Arya, S. P. Y. S., *g* 27 B S
Atterbury, B. B., *Sr. l* 13 S W
Auerbach, S. M., *Fr. l* or *s* 66 H
Auger, L. F., *Fr. ce* 15 Univ. Pl.
Averbeck, M. J., Jr., *Jr. a* 4 W W
Avery, F. D., *q* 7 B
Axtell, R. S., *g* 402 H S
AYMAR, J. W., JR., *Instructor* (34) Lake Road (P. O. Box 222)

Babson, T. E., *So. l* or *s* 144 C'y
Backus, K. H., *Jr. l* 2 A, H
Bade, W. H., *Fr. l* or *s* 19 Univ. Pl.
Baer, H. M., *Fr. l* or *s* 14 L
Bagby, C. T., Jr., *Fr. a* 3 W B
Bagby, E., *g* 64 G C
Bahrenburg, C. A., *Jr. a* 124 H
Bailey, F. W., *Sr. l* 21 N E
Bailey, G. O., *Fr. a* 22 H'm
Baker, F. C., *So. l* or *s* 122 L
Baker, J. D., *Sr. l* 3 N D
Baker, J. M., *Sr. l* 90 Nassau St.
Baker, M. M., *So. l* or *s* 24 B
Baker, W. R., Jr., *Fr. l* or *s* Hill
Ball, G. L., *Fr. l* or *s* 22 P
Bamman, E. B., *Sr. s* 23 Chambers St.
Banigan, C., *Sr. a* 27 C
Barba, P. S., *Jr. s* 27 C
Barber, L. H., Jr., *Sr. l* 64 Nassau St.
Barber, L. vanV., *g* 315 H S
Barbour, F. K., *Sr. a* 4 A, C
Barker, F. M., *Fr. l* or *s* 19 Univ. Pl.
Barker, L. V., *So. l* or *s* 312 H'm
Barksdale, R. H., *g* 34 G C
Barnard, R. A., *g* Plainsboro, N. J.
Barnett, R. F., *Fr. l* or *s* 27 Vandeventer Ave.
Barnitz, W. B., *Jr. s* 43 '79 H
Barnum, P. T., *Jr. l* 23 L
Barr, J. McF. *Sr. a* 42 L
Barret, J. H., *So. a* 34 H
Barrett, M. K., *Jr. l* 5 S R
Baruch, I., *g* 41 Univ. Pl.
Basmadjian, Y., *Sr. s* 3 B S
BASORE, J. W., *Ass't Professor* (28) 101 Library Pl.
Battle, G. K., *So. l* or *s* 184 L
Bauhan, G. L. T., *Fr. l* or *s* 32 Mercer St.
Bayer, E. S., Jr., *Fr. a* 21 H
Bayly, C. E., *So. l* or *s* 2 A, C
BAXTER, E. B., *Instructor* (33) 95 Mercer St.
Beal, W. R., *So. a* 90 P
Beasley, J. H., *Fr. l* or *s* 64 Nassau St.
Beattie, K. W., *Fr. l* or *s* 46 Wiggins St.
Beatty, W. H., *Sr. l* 93 H
Beaty, J. W., *So. ce* 11 S D
Bechtel, F., Jr., *Jr. l* 8 B, H
Becker, E. P., *So. l* or *s* 83 B
Beckhart, B. H., *Fr. a* 16 Park Pl.
Beekman, L., *So. l* or *s* 51 C
Beesley, T. Q., *f* 73 G C
BEGGS, G. E., *Ass't Professor* (32) 112 Mercer St.
Behrer, A., *Jr. a* 12 N W
Bell, C. C., Jr., *Fr. l* or *s* 105 H
Bell, R. E., *q* 134 L
Bell, W. W., Jr., *Fr. l* or *s* 81 B
Benade, J. M., *g* 23 G C
BENDER, H. H., *Ass't Professor* (31) 120 Fitz Randolph Rd.
BENNETT, A. A., *Instructor* (35) 35 Park Pl.
Benson, R. G., *Sr. l* 16 B
Benton, A. F., *Sr. a* 6 N D
Bergen, L. B., *Sr. ce* 26 M D
Berl, C. W., *Jr. l* 82 Nassou St.
Besson, L., *Par.* 24 Madison St.
Bettes, J. J., *Jr. l* 11 B
Betts, C. M., III, *Jr. l* 84 Nassau St.
Beury, W. M., *g* 81 G C
Bevin, N. P., II, *Jr. l* 82 B
Biddle, O. T., *Sr. l* 2 S E
Bieler, L. H., *So. a* 11 H
Bigelow, D. F., *Fr. l* or *s* 32 Mercer St.
Biggs, J., Jr., *So. l* or *s* 42 C
Biggs, J. E., *g* 54 G C
Bigler, P. G., *So. l* or *s* 12 H'm
Bingham, A. B., *Sr. s* 29 N E

Bingham, A. H., *So. l* or *s* 92 B
Bingley, G. A., *g* 8 B, G C
Bippus, G. J., *q* 10 S W B
Bird, E. P., *Sr. l* 71 B
Bischoff, C. H., *Sr. a* 19 S W
Bishop, J. P., *Jr. l* 9 W W
Bitten, R. M., *Fr. l* or *s* 30 S E
Bixler, D. S., *So. l* or *s* 42 H
Black, J. B., *Jr. l* 52 C
Black, W., *So. a* 9 A, H
Black, W. T., *Jr. a* 7 B, H
Black, W. W., *So. ce* 3 E B
BLAIR, F. W., *Assistant* (38) 2 B, G C
Blake, I. O., Jr., *So. l* or *s* 33 C
BLAKE, R. M., *Instructor* (36) 84 G C
BLAU, M. F., *Professor* (26) 27 Bank St.
Blayney, W. L., *So. l* or *s* 53 C
Bleakley, G. R., *Fr. l* or *s* 15 Dickinson St.
Bleecker, L. C., *Jr. l* 82 Nassau St.
Bleecker, L. L., *Fr. l* or *s* 8 Dickinson St.
Bloom, F. E., *Jr. l* 10 E W
Blue, K. V., *Sr. s* 17 N W
Blumberg, L., *So. l* or *s* 6 S W
Bluntschli, H. A., *Jr. s* 114 B
Boadway, W. M., *Jr. a* 300 H'm
Boardman, L., *Fr. l* or *s* 138 Nassau St.
Boaz, W. G., *Jr. l* 16 L
Bohlen, F. H., Jr., *Jr. l* 11 S W B
Bohmfalk, J. F., *Jr. l* 113 B
Bonbright, C. W., *So. l* or *s* 51 C
Bond, G. A., *Fr. l* or *s* 72 L
Bostick, B. H., *Fr. l* or *s* 10 P
BOUTROUX, P. L., *Professor* (27) Absent on leave
BOVARD, W. M., *Assistant* (38) 6 A, G C
Bovey, W. H., *Jr. l* 143 C'y
Bower, W., *Sr. l* 16 S W
Bowers, R. H., *q* 3 N E
BOWMAN, A. A., *Professor* (26) Absent on leave
Bowman, H. M., *Fr. l* or *s* 8 W B
Bowman, H. N., *g* 2 A, G C
Bowman, J. A., *q* 164 Nassau St.
Bowman, S. A., *Sr. a* 262 C'y
Bowman, W. McK., *So. l* or *s* 20 W W
Boyd, J. C., *So. l* or *s* 21 B
Boyd, R. J., Jr., *Sr. ce* 5 W M W
Brackenridge, G., *Jr. l* 13 N W
Bradley, L. C., Jr., *So. l* or *s* 34 H
Brakeley, H. H., *So. l* or *s* 8 S E B
Brashear, W. R., *So. ce* 44 Park Pl.
Bray, A. R., *Fr. l* or *s* 12 M D
Bream, P. A., *Fr. a* 53 Univ. Pl.
BRENNER, C. D., *Instructor* (36) 8 N R
Brenner, J. P., *So. l* or *s* B, W B
Brereton, O'H. D., *Sr. ce* 40 P
Brewster, D. B., *So. l* or *s* 81 H
Brewster, S. E., *So. l* or *s* 163 L
Brigham, C. C., *f* 14 B, G C
Brindle, R. H., *Fr. a* 42 Wiggins St.
Bronson, T. C., *So. l* or *s* 3 A, C
Brotemarkle, R. A., *Sr. a* 6 N W
Brown, A., *g* B S
Brown, A. C., *Jr. s* 26 C
Brown, C. E., Jr., *Jr. a* 32 '79 H
Brown, F. W., *g* 208 H S
BROWN, G. D., *Reference Librarian* (31) 1 S W B
Brown, H. G., *Sr. a* 4 A, C
Brown, J. D., *Fr. l* or *s* 35 N E
Brown, L., *Sr. l* 9 S M R
BROWN, P. M., *Professor* (27) 152 G C
Brubaker, R. E., *Jr. a* 302 H S
Bruce, D. K. E., *Fr. a* 141 H
Bruch, R. L., *So. a* 3 B, H'm
Brune, C. D. F., *Fr. a* 90 Nassau St.
BRÜNNOW, R. E., *Professor* (24) "Edgehill," Stockton St.
Bryan, F. T., IV, *So. l* or *s* 22 '79 H
Bryan, J. E., *Fr. l* or *s* 19 Univ. Pl.
Bryan, S. S., Jr., *Jr. l* 65 B
Buchanan, E. C., *Sr. l* 321 C'y
Buchanan, J. C., *q* 12 C
Buchanan, P. H., *Jr. l* 12 N W
Buddington, A. F., *f* 1 B, G C
Buell, G. P., *So. l* or *s* 441 C'y

Buell, W. A., *So. a* 123 L
BUFFUM, D. L., *Professor* (26) 60 Hodge Rd.
Bulkley, H. K., *Fr. a* 2 N D
Bullock, B., 3d, *Sr. a* 11 '79 H
Bullock, H., *Jr. a* 3 S E B
Bunnell, M. J., *Sr. l* 17 S W
Burch, H. J., *So. l* or *s* 54 C
Burchell, F., *Fr. l* or *s* 18 W W
Burchenal, C. H., *Jr. s* 92 H
Burford, W. H, *Sr. l* 11 N D
Burger, F. C., *Fr. l* or *s* 8 L P
Burke, W. J., *Sr. a* 47 Univ. Pl.
Burkelman, M., *So. l* or *s* 38 L
Burnes, D. R., *Jr. l* 1 E M W
BURNHAM, C. E., *Choirmaster* (343) 31 Univ. Pl.
Burns, J. H., Jr., *So. l* or *s* 2 C, H
Burns, R. W., *Sr. l* 19 N E
Burr, W. J., Jr., *Sr. s* 9 N R
Bush, S., *Jr. l* 31 S E
Butler, A. M., *Sr. l* 42 L
Butler, F. D., *Fr. l* or *s* 15 Univ. Pl.
BUTLER, H. C., *Professor* (23) Pyne Tower, G C
Butler, S. M., *Fr. l* or *s* 12 A, H
Butt, S. McC., *Jr. a* 11 M D
Butterworth, J. E., *Sr. s* 251 C'y
Butts, L. McC., *So. l* or *s* 11 H
Butz, H. A., *So. a* 9 S R
Buzby, G. C., *Fr. l* or *s* Hill
Bye, A. E., *g* Princeton, N. J.

Cabell, P. F., *Fr. ce* 32 Vandeventer Ave.
Caesar, C. U., *So. l* or *s* 23 P
Caldwell, W. T., *g* 55 Jefferson Rd.
Cale, G. W., III, *Jr. l* 43 '79 H
Cameron, T. D., *Jr. a* Hill
Cameron, W. B., *So. a* 6 S D
Campbell, C. L., *Sr. l* 18 N W
Campbell, E., *So. l* or *s* 76 H
Campbell, J. G., *Fr. a* 141 L
CAMPBELL, M. A., *Instructor* (35) 53 Aiken Ave.
Campbell, N. I., *So. ce* 10 N R
Campbell, R. N., *Sr. a* 10 N R
Cannon, J., III, *g* 103 H S
Capers, T. S., *g* 22 Dickinson St.
CAPPS, E., *Professor* (24) 150 Fitz Randolph Rd.
CAPPS, J. H., *Assistant* (37) 8 B, G C
Carey, J. M., *Sr. l* 1 N D
Carkener, S., II, *Fr. l* or *s* 153 L
CARNOCHAN, J. M., *University Physician* (41) The Infirmary
Carothers, N., *f* 102 G C
Carpenter, J. W., *Jr. l* 6 W M W
Carpenter, W. I., Jr., *Sr. l* 53 H
Carruthers, J. F. B., *g* 32 A S
Carter, E. S., *Sr. a* 1 C, H'm
Carter, F. B., *Fr. l* or *s* 15 S M R
Carter, K. K., *Fr. l* or *s* 12 U P
Carty, J. R., *Jr. s* 123 H
Carver, A. B., *So. l* or *s* 103 B
CARY, L. R., *Instructor* (34) 36 Wiggins St.
Casasús, M., *Jr. ce* 186 L
Casey, C. M., *Fr. l* or *s* Hill
Cator, H. T., *Jr. a* 2 A, H'm
Cavalcanti, L. A., *ee* 16 Vandeventer Ave.
CAWLEY, R. S., *Dept. Librarian* (307) Guyot Hall
Centanni, A. M., *g* 46 A S
Cerf, L. A., Jr., *Fr. l* or *s* 343 C'y
Chamberlin, J. R., *Jr. ce* 95 B
Chamberlin, W. B., *Jr. l* 1 W B
Chambers, H. R., *So. a* 76 H
Chang, T. S., *g* 3 Madison St.
Chapin, H., *Jr. l* 451 C'y
Chaplin, D. D., Jr., *Jr. l* 5 S M R
Chaplin, R. T., *Sr. l* 18 N W
Chapman, A. K., *f* 144 G C
CHAPMAN, P. A., *Instructor* (34) 6 A, H
Charles, M. A., *Jr. ce* 110 Nassau St.
Charles, M. G., *Fr. ce* 11 E B
Chen, S. Y., *g* 172 Nassau St.
Cheng, S. T., *q* 14 Park Pl.
Cherry, G. D., *So. l* or *s* 44 '79 H
Chester, N. M., *Jr. l* 442 C'y
Christie, A. E., *So. a* 8 S R
Christmas, F. B., *Fr. a* 2 N E
Church, R. N. L., *g* 30 Wiggins St.
Claire, V., *Sr. a* 1 W M W
Clark, A. T., *So. l* or *s* 9 N W
CLARK, E., *Instructor* (35) 26 Prospect Ave.

Clark, H. M., *Fr. l* or *s* 19 Univ. Pl.
Clark, R. D., *Fr. l* or *s* 32 Mercer St.
Clark, W. L., *Fr. l* or *s* 7 S W B
Clarkson, W. F., *Jr. l* 12 '79 H
Cleveland, R. F., *Fr. a* 6 A, C
Cleveland, R. L., *Sr. l* 161 L
CLOSE, G. F., *Editor of Official Publications, Assistant to the Secretary* (41) Nassau Hall
CLOSE, H. W., *Assistant* (38) 6 A, G C
Closson, J. H., III, *Jr. s* 2 E W
Clowney, F. S., *So. l* or *s* 33 B
Cloyd, A. L., *g* 80 Alexander St.
COAN, W. J., *Proctor* (41) Nassau Hall
Cochran, R. A., III, *Jr. a* 41 S E
Cochran, T. D., *f* 103 G C
Cockfield, W. E., *f* 156 G C
Coffey, A. H., *Jr. l* 16 N W
Coffin, P. L., *f* 122 G C
Coffin, R. P., *g* 21 G C
Coffin, S. B., *So. l* or *s* 11 S E B
Cohen, R. S., *Fr. l* or *s* 66 C
Cohû, H. W., *Jr. l* 154 L
Cohû, LaM. T., *Jr. l* 154 L
Coleman, R. C., *g* 15 C, G C
Collins, H. B., *So. l* or *s* 42 H
COLLINS, V. L., *Professor* (26) 214 The Western Way
Colwell, K. G., *Jr. l* 20 P
Comey, H. D., *Jr. l* 241 C'y
Comly, S. N., *Fr. l* or *s* 10 Madison St.
Compton, A. H., *f* 146 G C
COMPTON, K. T., *Ass't Professor* (32) 26 Murray Pl.
Compton, S. H., *Jr. a* 30 P
Comstock, F. A., *Fr. l* or *s* 43 Vandeventer Ave.
Conant, S. D., *So. a* 131 H
CONDIT, K. H., *Instructor* (34) 24 Madison St.
Conine, F. W., *So. l* or *s* 8 S E B
CONKLIN, E. G., *Professor* (24) 139 Broadmead
CONSTANT, F. H., *Professor* (27) 280 Nassau St.
Cook, C. H., *Fr. l* or *s* 58 Wiggins St.
Cook, C. S., *So. l* or *s* 92 B
Cook, P. H., *Jr. a* 13 S E
COOKE, H. L., *Ass't Professor* (29) 148 Mercer St.
Cooke, J., II, *Fr. a* 73 H
Cooke, J., *Fr. l* or *s* 71 L
Cookingham, H. W., *Sr. l* 96 B
Cooper, E. N., Jr., *Fr. l* or *s* 10 Dickinson St.
Cooper, F. S., *Fr. a* 15 Edwards Pl.
Cooper, N. H., *So. l* or *s* 9 W B
Cooper, S. I., *Jr. l* 64 '79 H
Copeland, A. T., *Jr. l* 26 C
Cooper, W. P., *q* 13 W W
Corkran, D. C., *So. ce* 3 A, H
CORNWALL, H. B., *Professor* (20) 12 Morven St.
CORWIN, E. S., *Professor* (25) 115 Prospect Ave.
Cory, B. H., *So. a* 90 P
Cory, H. L., *Jr. l* 30 P
COSGRAVE, J. S., *Assistant to the Treasurer* (41) Stanhope Hall
Cotton, W. M., *q* 91 B
COTTRELL, W. R., *Sup't of Circulation* (307) University Library
COVINGTON, H. F., *Professor* (25) 34 Edgehill St.
Cox, I. J., *Fr. l* or *s* 19 W W
Cox, W. H. D., *Fr. l* or *s* 11 Bank St.
Cramer, K. F., *Sr. l* 10 W M W
Crane, E. M., *So. l* or *s* 22 P
Crane, F. R., *So. l* or *s* 3 A, H
Crawford, L. W., *g* 22 Vandeventer Ave.
Crawford, R. L., III, *Jr. a* 52 C
Creese, J., Jr., *So. l* or *s* 7 A, H
Cresswell, R., III, *Fr. a* 73 H
Criscitiello, M., Jr., *Jr. a* 22 N E
CRITCHLOW, F. L., *Ass't Professor* (28) 6 Mercer St.
Crocker, D. R., *Sr. a* 22 S E
Crocker, E. S., Jr., *So. a* 7 U P
CROLL, M. W., *Ass't Professor* (29) 6 N R
Cromelin, J. S., *So. l* or *s* 64 L
Cromer, J. M., *q* 28 Vandeventer Ave.
Cromwell, J., *So. a* 74 H
Cross, H. C., *Sr. a* 43 B

Crossley, A. M., *So. a* 23 William St.
Crowell, N. H., *g* 40 Moore St.
Cudlipp, C., *Fr. l* or *s* 45 Univ. Pl.
Culver, H. S., *Jr. s* 1 N M R
Cumberland, W. W., *f* 22 G C
Cumming, C. L., *f* 154 G C
Cuneo, J. C., *Jr. s* 12 S E
Currie, E. W., *So. l* or *s* 9 S E
Cushman, H. B., *So. l* or *s* 7 S D
Cutler, R. H., *Jr. s* 4 E B
Cutting, A. B., *So. l* or *s* 62 H

DAHLGREN, U., *Professor* (25) 7 Evelyn Pl.
Dancy, B. G., *Sr. l* 12 P
Danenhower, J. W., *Sr. l* 6 E M W
DANIELS, A. L., JR., *Instructor* (35) 272 Nassau St.
Davies, T. J., *Sr. a* 10 S R
Davis, B. H., *Fr. ce* 31 Univ. Pl.
Davis, H. M., *Jr. ce* 47 N. Tulane St.
Davis, J. C., *Fr. l* or *s* 6 E B
Davis, N. P., *Sr. a* 23 '79 H
DAVIS, R., *Sup't of Grounds and Buildings* (41) Stanhope Hall
Davis, R. L., *g* 413 H S
Davy, W. M., *Sr. s* 62 '79 H
Dawbarn, R. H., *Sr. a* 101 B
Dawes, N. B., *Sr. l* 32 C
Day, E. W., Jr., *Sr. a* 304 H'm
Day, K. M., *Jr. a* Hill
DEAN, L. R., *Instructor* (36) 18 Bank St.
Decker, E. S., *Sr. l* 24 S E
Decker, J. D., *So. l* or *s* 101 P
DEDERICK, L. S., *Instructor* (33) 23 William St.
DEFERRARI, R. J., *Instructor* (36) 114 G C
DeGray, H. B., *So. l* or *s* 17 B
Deitsch, F. J., *Jr. a* 65 C
DeLacy, G. C., Jr., *Sr. a* 30 N E
DeLacy, W. B. J., *So. a* 162 L
DeLanoy, D., *Jr. a* 15 L P
Dell, W. S., *Sr. a* 51 H
DeLong, C. F., *So. a* 23 P
DeLong, O. A., Jr., *Sr. s* 222 C'y
Demaree, D. R., *Sr. a* Hill
Demorest, G. C., *Jr. a* 41 H
Dempsey, W. L., *Jr. l* 25 S E
Denby, J. O., *Fr. l* or *s* 432 C'y
Denison, J. M., *Jr. s* 14 N E
Denit, L. A., *g* 15 C, G C
Dennis, H. VanM., III, *So. a* 144 L
Dent, E., Jr., *So. l* or *s* 82 Nassau St.
Depue, D. A., *Jr. l* 8 B, H
deVilliers, W. R., *g* 35 B S
Dewald, E. T., *f* 54 G C
DEWITT, J., *Trustee* 31 Library Pl.
Deyo, W. H., *Sr. l* 54 L
DeYoe, W. L. L., *Jr. l* 162 C'y
Dibert, G. A., *Fr. l* or *s* Hill
Dibrell, E. R., *Fr. l* or *s* 39 Univ. Pl.
Dickerman, C. A., *Jr. l* 101 L
Dickey, P. B., *Jr. a* 185 L
Dickinson, H. M., *Fr. l* or *s* 91 P
Dickinson, J., *f* 15 B, G C
Diller, H. E., *Sr. a* 181 L
Dillon, M. S., *Jr. a* 62 P
Dingee, A. L. M., *Fr. ce* 53 L
DIRKS, H. B., *Instructor* (36) 24 Mercer St.
Dittmer, W. A., *f* 104 G C
DIXON, J., *Trustee* Trenton, N. J.
Dixon, W., *Sr. l* 6 E M W
DOBIE, L. B., *Assistant* (38) 54 Murray Pl.
Dodd, E. D., *Sr. s* 16 B
Dodd, J. A., *Fr. ce* 80 P
Dodd, J. L., *q* 5 E W
Dodd, W. F., *Sr. l* 4 N R
Donahoe, C. W., *Jr. l* 138 Nassau St.
Donnelly, L., *So. l* or *s* 24 B
Donner, J. W., *Jr. l* 10 N D
Donoho, J. F., *So. l* or *s* 184 L
Dorrance, E. R., *Jr. l* 311 H'm
Dougherty, G., *Jr. s* 101 L
Dougherty, W. McC., *So. l* or *s* 6 S M R
Douglas, B., *Sr. l* 134 H
Douglas, E. O., *Fr. a* 133 L
Dowd, M. L., *So. l* or *s* 52 L
Dowell, J. N., *Sr. l* 54 B
Downing, B. C., *Fr. l* or *s* 40 N E
Doyle, E. W., *So. l* or *s* 310 H'm
Doyle, H. W., *Fr. l* or *s* 22 H'm
Dresser, S. R., *Jr. s* 61 P

Dreyfuss, S. W., *Fr. l* or *s* 4 M D
Driggs, E. H., Jr., *Jr. ce* 41 P
Drohan, J. H., *So. a* 5 E M W
Drorbaugh, W., *Jr. l* 54 '79 H
Dubia, H. F., *Fr. a* 7 W M W
DuBois, L. T., *Fr. l* or *s* 107 P
Dubbs, H. M., *So. a* 15 N D
Dudgeon, A., *So. l* or *s* 311 C'y
Duer, E. L., II, *Jr. a* 84 H
DUFFIELD, D. W., *Sup't of Printing and Binding* (307) University Library
DUFFIELD, H. G., *Treasurer* (40) Stanhope Hall
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Dulles, A. W., *g* 11 G C
Duncan, W. G., *So. a* 12 H
Dunlevy, R. A., *Jr. a* 8 N M R
Dunn, A. C., *Sr. a* 2 M D
Dunn, E. J., *Fr. a* 34 S E
Dunn, H. T., *Jr. l* 3 W M W
Dunn, R. H., *Fr. l* or *s* 20 N W
Dunn, R. P., *Fr. l* or *s* 30 Mercer St.
Dunn, W. C., *Fr. l* or *s* 33 L
Dunphy, E. B., *So. l* or *s* 11 W B
Durell, A. W., Jr., *Jr. l* 143 L
Durell, E., *Jr. l* 2 B, H'm
DURHAM, D. B., *Ass't Professor* (32) 72 Univ. Pl.

Eaby, C. R., Jr., *So. l* or *s* 113 H
Eastman, A. S., *f* 44 Mercer St.
Eberhardt, M. A., *Jr. l* 44 C
Eberstadt, R., *Jr. a* 6 W B
Eddy, J. E., *Jr. ce* 74 B
Eddy, W. A., *q* Murray-Dodge
Edgar, M. L., *Jr. a* 4 W M W
Edgar, M. S., *Jr. a* 4 W M W
Edgar, W. J. B., Jr., *Fr. a* 6 N M R
Edgar, W. LeR., *Sr. a* 142 C'y
Edwards, L. M., *Jr. s* 23 William St.
Eells, E. E., *g* 203 H S
EGERTON, F. N., JR., *Instructor* (35) 8 A, G C
Egner, J. E., *So. l* or *s* 33 B
EISENHART, L. P., *Professor* (24) 22 Alexander St.
Elder, J. G., *So. a* 3 N R
ELDERKIN, G. W., *Ass't Professor* (30) The Bachelors
Eldridge, H. R., Jr., *So. l* or *s* 183 L
Eldridge, R. L., *So. l* or *s* 183 L
Elgin, C. P., *Fr. ce* 18 Madison St.
Elliott, D. A., *Sr. l* 24 Bank St.
Elliott, J. S., *So. a* 44 E W
Ellis, D. R., *Sr. l* 172 L
England, C. E., *So. l* or *s* 44 '79 H
ENO, H. L., *Research Associate* (33) 65 Stockton St.
Eppley, M., *g* Princeton, N. J.
Erdman, C. R., Jr., *Fr. a* 72 B
Errington, R. N., *Jr. l* 12 N M R
Erskine, L. G., *So. l* or *s* 17 B
Ertel, B. H., *Jr. l* 53 '79 H
Etheridge, H. A., Jr., *Fr. l* or *s* Hill
Etter, B. F., *Jr. l* 44 B
Evanns, A. J., *Fr. l* or *s* 105 H S
Evans, R. D., *Sr. a* 12 N D
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Everitt, J. W., *Jr. l* 71 H
Ewart, J. J., *So. l* or *s* 22 Madison St.
Ewing, M. H., *So. l* or *s* 3 S D

Fahys, J., II, *Fr. l* or *s* 19 Univ. Pl.
Fairgrieve, J. T., *Fr. l* or *s* 15 N M R
Faison, J. B., *q* 62 B
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Fendrick, P. O., *Sr. l* 211 C'y
Feree, R. B., Jr., *Sr. s* 341 C'y
Ferguson, E., *Sr. a* 34 B
FETTER, F. A., *Professor* (25) 121 Broadmead

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Field, W. T., *Sr. ce* 33 '79 H
Fillebrown, W. Y., *Sr. s* 9 M D
FINE, H. B., *Dean of the Departments of Science* (21) 73 Library Pl.
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Finney, E. D., *Fr. l* or *s* 42 P
FINNEY, J. M. T., *Trustee* Baltimore, Md.
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Flinn, L. B., *So. a* 82 P
Floto, W. H., *Sr. a* 17 S M R
FOGEL, P. H., *Ass't Professor* (30) 8 S W
FOGLER, R. H., *Assistant* (38) 60 Univ. Pl.
Folwell, C. H., Jr., *Jr. ce* 52 H
FORD, H. J., *Professor* (24) The Nassau Inn
Ford, H. W., *Jr. l* 24 '79 H
Foresman, R. H., *Fr. l* or *s* 8 N W
Forney, L. G., *Sr. l* 26 M D
Forster, E. H., *Jr. a* 7 M D
Foster, E. D., *So. l* or *s* 38 L
Foster, J. A., Jr., *So. ce* 73 P
Foster, J. M., *Jr. a* 7 N D
Foster, P. W., Jr., *Jr. l* 24 '79 H
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Fowler, O., *Jr. a* 68 L
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Frank, H. H., *Sr. l* Hill
Frankel, G. A., *Fr. l* or *s* 19 Bank St.
Franklin, B., Jr., *Sr. a* 2 W B
Franks, R. A., Jr., *Jr. l* 41 '79 H
Franks, R. C., *So. l* or *s* 41 '79 H
Frantz, A. M., *Sr. a* 4 S E
Frantz, S. G., *So. ce* 64 Battle Rd.
Fraser, A. A., *Fr. l* or *s* 45 Univ. Pl.
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Freck, S. G., *Fr. ce* 19 Univ. Pl.
Frederick, T. L., *Sr. l* 172 L
Freeborn, W. L., *So. a* 111 B
FRICK, H. C., *Trustee* Pittsburgh, Pa.
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Frost, H. W., Jr., *Fr. ce* 14 Edwards Pl.
Frost, J. H., *Jr. l* 12 E B
Fundenburg, G. B., *Sr. a* 7 Park Pl.
Funk, G. W., *Fr. l* or *s* 51 B
Funsten, R. F., *Jr. l* 20 P
FURMAN, N. H., *Assistant* (37) 15 F, G C
Furman, R. W., *Sr. l* 1 S M R

Gabriel, E., *Sr. s* 10 S M R
Gadebusch, P. H., *Sr. a* 101 B
Gailey, J. W., *Jr. l* 12 N M R
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Garrigues, W. A., Jr., *Fr. ce* 45 Univ. Pl.
Garside, H. R., *Jr. ce* 2 B, C
Garvey, J. McB., *Jr. l* 243 C'y
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Gibson, W., *Par.* 303 H S
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Giraud, A. P., *g* 41 G C
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Godwin, B. M., *f* 12 G C
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Goodrich, F. P., *Jr. l* 16 C
Goodspeed, M., *So. l* or *s* 61 H
Gordon, B., *So. l* or *s* 8 E W
Gordon, H. B., Jr., *So. l* or *s* 131 H
Gordon, H. L., Jr., *Sr. l* 75 H
GORDON, N. T., *Assistant* (37) 7 C, G C
Gorter, T. P., *So. a* A, B
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Gould, H. N., *f* 101 G C
Gould, J. D., *Sr. ce* 75 H
Gould, O. V., *Sr. l* 22 L
Gowan, J. E., *Jr. a* 171 L
Gowing, E. P., *So. ce* 3 S D
Grant, B. M., III, *Sr. l* 20 E W
Grant, C. H., *Jr. ce* 61 '79 H
Gray, W. S., Jr., *Fr. a* 14 H'm
Greason, H. S., *So. l* or *s* 25 M D
GREEN, H. W., *Trustee* Trenton, N. J.
Green, J. S., Jr., *Sr. a* 94 B
Green, T. B., *So. a* 2 C, H
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Gregory, T. W., Jr., *Fr. l* or *s* 84 B
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Griffith, R. M., *So. a* 21 H'm
Griffiths, W. D., *Fr. a* 19 S W
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Grinnell, H. L., *q* 21 L
Groover, A. B., *Fr. l* or *s* 30 Mercer St.
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Guerin, S. V., *Fr. l* or *s* 19 Univ. Pl.
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Guild, H. H., *q* 15 M D
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Guy, W. E., *Jr. a* 332 C'y

Haaren, E. C., *So. l* or *s* 162 L
Haas, C. H., *Jr. ce* 4 W B
Hadden, C., III, *Jr. a* 43 P
Haffner, W. B., *So. l* or *s* 3 B
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Hall, R. H., *q* 18 Madison St.

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Hamilton, M. McG., *q* 132 H
Hamilton, W. P., *Jr. a* 15 N W
Hammer, W. T., *So. l* or *s* 63 P
Hammond, A. P., *So. a* 24 L
Hammond, R. S., *Jr. ce* 4 E M W
Hampe, W. W., *So. l* or *s* 5 A, C
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Harper, W. P., *So. l* or *s* 102 B
Harrigan, A. N., *Sr. s* 33 N E
Harris, A. K., *Fr. l* or *s* 66 H
Harris, D. J., *So. ce* 309 H'm
Harris, E., II, *Jr. a* 32 '79 H
Harris, S. E., *Jr. a* 15 S W
HARRIS, W. B., *Professor* (22) Greenholm
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Harrison, H. C., Jr., *So. a* 43 L
Harrison, J. DeH., *f* 142 G C
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Harvey, H. H., *q* 47 N. Tulane St.
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Hasslacher, G. F., *Jr. s* 44 B
Haupt, H. L., *Sr. l* 16 S M R
Hawkins, C. G., *Fr. l* or *s* 31 Univ. Pl.
Hax, W. B. F., *Fr. l* or *s* 1 E B
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Hayes, S. R., *Fr. l* or *s* 8 Dickinson St.
Hayes, W. H., *g* 309 H S
Hayward, W. G., *Jr. l* 15 N E
Hazard, E., *So. a* 18 S W
Hazen, E. H., *g* 4 B, G C
Hazlehurst, R. P., *Jr. a* 9 E B
Heath, B., *Sr. l* 21 L
Heath, W. L., *Jr. l* 133 H
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Heimerdinger, C. E., *Jr. l* 71 P
Heimerdinger, F. M., *Jr. l* 71 P
Heimerdinger, H. L., *So. l* or *s* 100 P
Heinsohn, A. G., *Fr. l* or *s* 17 E W
Heintz, J. E., *Sr. l* 161 L
Heinzelmann, G. M., *Sr. l* 11 N E
Helm, L., Jr., *So. l* or *s* 111 L
Helm, T. O., Jr., *Fr. ce* 23 N E
Hemphill, J., *Sr. l* 7 N E
Hendel, C. W., Jr., *f* 76 G C
Henderson, G. W., *Fr. l* or *s* 14 Edwards Pl.
Henderson, S. C., *g* 409 H S
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Herendeen, E. G., Jr., *So. l* or *s* 62 H
Herron, P. J., *So. a* 35 P
Herron, S. D., *So. a* 35 P
HERSH, A. H., *Assistant* (38) 6 B, G C
Hersh, E. S., *Jr. l* 112 B
Hewitt, A. C., *Jr. s* 421 C'y
Hewitt, T., *Par.* 18 S M R
Heyl, R. C., Jr., *Sr. a* 2 S W B
Heyl, W. E., Jr., *Sr. a* 70 P
Heyniger, C. L., *Sr. ce* 33 H
Heywood, H. M., *Jr. l* 142 H
HIBBEN, J. G., *President* Prospect
Hicks, W. A., *Fr. l* or *s* 4 B
Higgins, E. Q., *So. ce* 2 S D
Higgins, J. R., *Jr. l* 17 N E

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Hillyer, C. N., *So. l* or *s* 21 P
Hiltebeitel, L. C., *Jr. a* 37 N E
Hilton, A. E., *Fr. l* or *s* 15 S D
Hilton-Green, H. L., *Jr. a* 71 B
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Hinshaw, J. C. W., *Sr. ce* 40 P
Hirschberg, D. S., *Sr. a* 331 C'y
Ho, P. S., *g* 14 Park Pl.
Hockaday, J. K. B., *Fr. l* or *s* 42 P
Hockmeyer, V. F., *So. l* or *s*
6 S E B
Hogg, F. T., II, *Jr. ce* 41 P
Holden, L. C., Jr., *Fr. l* or *s*
2 N D
Hollander, R. B., *Sr. l* 351 C'y
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95 P
Humphreys, J. G. S., *Jr. l* 3 L P
Humphreys, W. Y., Jr., *Jr. l* 7 L P
Hunt, T. B., *Jr. l* 15 B
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Irvine, J. E., *Fr. a* 5 N E
Iseman, D. A., *Jr. l* 36 P

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Jackman, D. E., Jr., *Jr. l* 92 P
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Jackson, N. D., *Jr. l* 3 W M W
Jackson, T. B., *Sr. l* 64 B
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Jarvis, G. T., II, *So. ce* 1 S E
Jelke, F., III, *So. l* or *s* 65 H
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14 H'm
Jennings, A. H., *Fr. a* 6 E B
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Kalt, W. M., *Sr. l* 221 C'y
Kane, E. W., *So. ce* 106 H
Kauffmann, P. C., *So. l or s* 112 L
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Kazanjian, B., Jr., *So. l or s* 63 H
Keating, T. B., *Jr. l* 10 N D
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Kent, H. T., Jr., *f* 33 G C
Kenway, I. F. L., *Jr. ce* 64 C
Kenyon, D. H., *Sr. l* 2 W B
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King, G., *Fr. l or s* 15 Univ. Pl.
King, G. C., *Jr. l* 114 H
King, J. B., *Fr. l or s* 15 Univ. Pl.
King, W. C., Jr., *Sr. l* 2 M D
Kinnard, L. R., *Fr. a* 14 N W
Kirbach, W. C., *Fr. a* 9 N D
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Knott, J. P., Jr., *f* 2 A, G C
Knower, H. DuB., *Fr. l or s* 9 E W
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Kuser, J. D., *Fr. l or s* 362 C'y

La Barron, R. F., *g* 126 G C
Labouisse, W. H., *So. l or s* 61 L
LaForce, W. W., *So. l or s* 5 S W B
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Lamar, L. V., *So a* 82 Nassau St.
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Lamarche, R. F., *Fr. a* 13 A, H

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Landon, S. W., Jr., *Jr. s* 5 W B
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Laney, H. L., *Jr. l* 17 W W
Larkin, G. B., *Fr. a* 431 C'y
Larsen, J., *Sr. ce* 95 B
Latham, J. H., *q* 103 H
LaTour, C. F., *Jr. l* 2 S E B
Latrobe, C. H., *Jr. ce* 84 H
LAUGHLIN, H. H., *Assistant* (39) 36 Univ. Pl.
Law, B. C., *Sr. a* 11 '79 H
Lawson, O. M., *Fr. l* or *s* 106 P
Lawton, S., *So. ce* 8 M D
Lawyer, G. I., *So. a* 63 H
LEACH, H. S., *Librarian's Ass't* (35) 104 G C
LEAKE, C. D., *Jr. s* 311 H'm
LeCompte, C. R., Jr., *ee* 15 A, G C
Lee, E. H., *Sr. l* 11 S E
Lee, P. B., *So. a* 31 C
Leeb, B. P., *So. l* or *s* 19 M D
Leggett, M. W., *Jr. a* 94 H
Leidy, R. S., *So. a* 2 S M R
Leinbach, L. R., *Fr. l* or *s* 35 S E
Leopold, J. M., Jr., *Fr. a* 8 W M W
Leslie, A. C., *Fr. a* 39 Univ. Pl.
Leslie, D. S., *So. l* or *s* 35 L
Lester, R. R., *Sr. l* 131 L
Levengood, S. L., *Sr. l* 32 G C
Lewis, A. C., *Jr. l* 3 A, H'm
Lewis, C. H., *g* 309 H S
Lewis, H. R., *So. l* or *s* 61 H
Lewis, T. McD. N., *Fr. l* or *s* 12 M D
LIBBEY, W., *Professor* (20) Thanet Lodge
Lin, T. L., *g* 29 B S
Lineaweaver, T. H., *Fr. l* or *s* 31 Univ. Pl.
Link, S., MacA., *Jr. l* 61 P
Link, V. G., *Sr. l* 11 S M R
Littell, A. B., *So. l* or *s* 72 P
Lloyd, E. S., *Sr. s* 131 L
Lloyd, S., Jr., *Fr. a* 13 A, H
Lloyd-Smith, W., *Sr. a* 15 C
Lockert, C. L., Jr., *g* 11 Univ. Pl.
Logan, K. B., *So. a* 97 B
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Long, H. C., *Fr. l* or *s* 31 Univ. Pl.
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Look, E. T., *So. l* or *s* 42 C
Lord, T. C., *Fr. l* or *s* 15 Edwards Pl.
Lorenz, E. H., *Jr. a* 124 H
Love, W. DeL., Jr., *Sr. l* 31 B
Lowrie, W. A., *Jr. a* 22 H
Lowrie, W. L., Jr., *Jr. s* 5 N R
Ludlow, E. H., *Fr. ce* 16 E W
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Lukens, L. N., *Jr. l* 13 B
Lutz, R. B., *So. l* or *s* 4 S R
Lybolt, F., *Fr. l* or *s* 32 Mercer St.
Lyman, A. V., *So. a* 111 L
Lyman, W. C., *So. l* or *s* 5 W W
Lyon, H. S., *So. l* or *s* 20 S W
Lyons, M. J., *Fr. l* or *s* 32 Vandeventer Ave.
Lyons, W. W., *Jr. a* 5 E B

McAdoo, W. G., Jr., *Jr. l* 5 L P
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McCaddon, J. T., Jr., *So. l* or *s* 7 U P
McCague, R. H., *So. l* or *s* 34 P
McCandless, L., *Fr. l* or *s* 11 P
McCann, R. H., *Jr. l* 37 S E
McCauley, E. D., *So. l* or *s* 21 P
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McConnell, F. J., *Fr. a* 11 E B
McCONNELL, W. O., *Instructor* (36) 24 G C
McCORMICK, C. H., *Trustee* Chicago, Ill.
McCormick, G., *Jr. l* 64 '79 H
McCormick, G. B., *Fr. ce* 14 Edwards Pl.
McCormick, L., *Fr. l* or *s* 14 Edwards Pl.
MacCreadie, J. H., *Fr. l* or *s* 25 N E
MacCready, P. B., *Sr. s* 4 N R
MacCready, R. H., Jr., *Sr. l* Murray-Dodge
McCulloch, D., Jr., *Fr. a* 10 Madison St.
McCune, J. R., *Fr. a* 71 L
McCutchen, B. S., *ee* 44 G C
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McDonald, R. M., *Jr. l* 7 S E
McDougal, D. B., *Fr. ce* 9 B
McDougal, E. D., Jr., *So. l* or *s* 182 L
McDougal, R. D., Jr., *Fr. l* or *s* 6 B
McDowell, J. N., *Jr. l* 8 S E
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McGean, R. L., *Fr. l* or *s* 14 Edwards Pl.
McGraw, C. W., *Fr. ce* 51 B
McGraw, J. H., Jr., *Sr. l* 22 L
Machemer, P. A. G., *Sr. a* 27 S E
Machin, J. A., *So. l* or *s* 7 S W
McIlvain, E. M., Jr., *So. l* or *s* 43 H
McIlvain, S. L., *Fr. l* or *s* 3 S W B
McIlwain, G. K., *So. l* or *s* 12 W B
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McKaig, A. L., *Jr. a* 72 H
Mackay, C. N. M., *g* B S
Mackay, D. K., *q* 13 N D
MacKean, J. A., *g* 311 H S
McKee, R. D., *Fr. l* or *s* 33 N E
McKee, T. P., Jr., *Sr. a* 98 B
McKeever, G., *So. l* or *s* 18 S E
McKinney, R. L., *Sr. l* 363 C'y
McKnight, R. W., *Fr. a* 15 Edwards Pl.
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McLennan, D., *So. l* or *s* 5 S W
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McMullen, A. C., *g* 24 A S
McNeill, J., *g* 307 H S
MacNichol, E. F., *Jr. l* 54 '79 H
McNulty, J. O., *q* 7 Park Pl.
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McQuiston, C. F., *Fr. l* or *s* 15 Edwards Pl.
McRae, D. O., *Jr. l* 212 C'y
Macsherry, C. K., *Jr. a* 93 B
McTigue, J. B., *Sr. ce* 27 M D
McWilliams, C. A., *Sr. a* 20 E W
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Madden, W. McK., *Jr. ce* 110 Nassau St.
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Manchee, V. T., *Jr. s* 1 A, H'm

Mandel, D., *Fr. l* or *s* 29 S E
Mandel, O., *Sr. ce* 251 C'y
Manee, W. B., *So. l* or *s* 6 W W
Manny, E. S., *Fr. l* or *s* 143 H
Marbury, F., *So. a* 82 Nassau St.
March, H. M., *Jr. a* 15 S W
Marks, A. W., *Fr. a* C, E B
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Marshall, R. H., *So. l* or *s* 309 H'm
Martin, C. F., *Sr. a* 20 S E
Martin, F. H., *f* 52 Jefferson Rd.
Martin, H. K., *Fr. a* 31 N E
Martin, R. S., *Sr. l* 3 W W
Martin, T., *Jr. a* 121 H
Martin, W., *So. a* 14 N M R
MARTINS, C., *Sup't of Purchase* (307) University Library
Marvin, W. B., *So. l* or *s* 47 N. Tulane St.
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Massie, J. W., *Sr. a* 12 P
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Mathiasen, A., *Jr. l* 11 B
Matthews, T. C., *So. ce* 3 N R
Matthews, W. P., *So. a* 8 A, H
Matlock, P. B., *Jr. a* 413 C'y
Mautner, B. H., *g* 41 Univ. Pl.
Maxwell, H. W., Jr., *Fr. l* or *s* 19 Univ. Pl.
Maxwell, J. C., *Fr. l* or *s* 28 Vandeventer Ave.
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Mayer, F. L., *g* 162 Library Pl.
Mayer, W. S., *So. l* or *s* 62 L
Meek, T. C., *So. a* 8 A S
Meier, E. G., *Sr. a* 17 N W
Meigs, H., *So. a* 64 Nassau St.
Meirs, W. W., *So. ce* 9 U P
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Metzerott, K. A., *Sr. s* 133 H
Michael, B. S., *So. l* or *s* 132 H
Mickey, K. B., *Fr. a* 7 E M W
Mickey, R. Z., *Fr. a* 7 E M W
Middleditch, F. A., *So. a* 452 C'y
Middour, E. J., *Sr. l* 15 S E
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Miles, T. H., Jr., *Jr. l* 243 C'y
Millard, A. J., *Fr. l* or *s* 10 N M R
Miller, A. K., *Fr. l* or *s* 85 P
Miller, C., *So. a* 41 L
Miller, E. J., *Jr. l* 5 N R
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Miller, N., *Sr. a* 33 '79 H
MILLER, T. A., *Instructor* (35) 52 B
Millikin, S. A., *Sr. l* 10 L P
Millinger, W. H., *So. l* or *s* 8 C, H
Mills, J. F., *So. ce* 8 N R
Mills, W. E., *Fr. a* 105 P
Milne, J. C., II, *Fr. a* 31 Univ. Pl.
Mirsky, L. P., *Fr. l* or *s* Hill
Mitchell, E. K., Jr., *Sr. a* 24 C
Moffett, C. E., *g* 91 G C
Molt, P., *Sr. l* 10 E B
Montgomery, A. M., *Fr. l* or *s* 10 W W
Montgomery, R. B., *q* 82 Nassau St.
Moore, F. L., *So. l* or *s* 13 S D
Moore, G. D., *Fr. l* or *s* F, W B
Moore, K., *Sr. l* 104 B
Moore, M. D., *Fr. ce* 14 S E
Moore, P. E., *Sr. l* 33 H
Moore, R. G., *Fr. a* Hill
Moore, T. C., *Fr. l* or *s* 11 N M R
Moore, W. B., *Jr. l* 74 B
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Morgan, D. C., *Fr. l* or *s* 84 B
Morgan, G. F., Jr., *So. a* 43 L
Morgan, J. W., *Sr. a* 42 B
MORGAN, S. W., *Assistant* (39) 7 A, G C
Morris, K. A., *So. l* or *s* 72 P
Morris, W., *Fr. ce* 10 S D
Mortimer, S., Jr., *Fr. a* 124 L
MOSELEY, T. A. E., *Instructor* (34) 70 Univ .Pl.
Moss, J. A., *Fr. a* 3 S W B
Mount, L., *Sr. a* R. F. D. 2
Mount, T. E., *Sr. l* 25 C
Mravlag, P. V., *Fr. l* or *s* 6 B
Mudd, S., *Sr. s* 23 '79 H
Mudge, W. F., *Jr. l* 41 P
Muirheid, J. G., *Sr. l* 54 L
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MURCH, H. S., *Ass't Professor* (31) 1 A, C
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Murray, A. B., *So. l* or *s* 12 S E B
MURRAY, H. G., *Secretary, Graduate Council* (443) 62 Nassau St.
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Nebeker, E. A., *Sr. l* 90 Nassau St.
Neely, J. H., Jr., *Sr. a* 111 H
Neely, W. H., *Jr. a* 300 H'm
NEHER, F., *Professor* (23) 148 Library Pl.
Nelson, P. D., *Jr. l* 102 H
Neuberger, H. H., *Jr. l* 305 H'm
Neuburg, W. B., *Sr. l* 14 S W
Nevin, C. W., II, *Jr. a* 97 B
Newbury, F. J., Jr., *Jr. l* 15 P
Newlin, J. V., *Fr. ce* Hill
Nicholas, J. S., *Jr. a* 34 U
Nicholas, R. A., *Fr. l* or *s* 9 Park Pl.
Nichols, C. O., *Sr. l* 90 Nassau St.
Nidetsky, C. F., *Sr. a* 14 S W
Niles, A. L., Jr., *Fr. a* 2 U P
Niles, T. B., *Sr. l* 1 W M W
Nimick, W. K., *Fr. l* or *s* 141 L
Nixon, F. W., *Jr. l* 32 B
Nixon, S. W., *q* 2 L P
Norcross, L. H., *Fr. ce* 108 Nassau St.
Norris, A. E., *So. ce* 69 Alexander St.
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Northacker, H. A., *g* 210 H S
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Norton, P. R., *Fr. a* 47 N. Tulane St.
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Nourse, R. L., Jr., *Jr. l* 14 S D
Nowland, P. J., *So l* or *s* 14 B
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Oehler, J. C., *So. a* 8 N R
Ogden, D. A. D., *So. a* 12 W B
Ogiri, K., *g* 110 H S
Ohliger, L. P., *Sr. s* 5 A, H
O'Kane, J. J., Jr., *Sr. l* 23 Linden Lane
Olewiler, H. L., *g* 207 H S
Oliphant, E., *Jr. a* 7 S E B
Oller, R. H., *So. l* or *s* 3 C, H'm
Olmstead, P. S., *Fr. l* or *s* 13 Bank St.
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Orth, P. W., *Fr. l* or *s* 244 C'y
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Othen, R. C. T., *g* 307 H S
Otis, J. R. L., *Sr. l* 1 B

Packard, F. H., *So. a* 13 U P
Page, L. R., *Fr. l* or *s* 85 P
Page, S. D., Jr. *So. a* 16 M D
Palmer, R. J., *Fr. ce* 8 Dickinson St.
Palmer, S. E., *So. l* or *s* 12 S E B

Pardee, F., Jr., *So. ce* 2 S D
Parisette, O. J., *So. ce* 10 S E B
Parker, C., III, *Fr. a* 4 U P
Parker, J. F., *Fr. l* or *s* 30 Mercer St.
Parker, J. J., Jr., *Jr. a* 4 S E B
Parker, P., Jr., *So. a* 64 Nassau St.
Parker, P. MacG., *Fr. a* 36 L
Parker, R. W., *So. ce* 112 H
Parker, W. M., *So. a* 111 L
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Paxton, W. M., III, *Fr. a* 53 L
Payne, F. D., *Sr. a* 138 Nassau St.
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Peacock, G. A., *Sr. l* 90 Nassau St.
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Perkins, G. W., Jr., *Jr. l* 232 C'y
Perlman, S. P., *Sr. l* 2 N M R
PERROTT, G. ST. J., JR., *Assistant* (39) 63 G C
Peters, T. D., *Fr. l* or *s* 23 M D
Petterson, G. R., *Fr. l* or *s* 9 S W B
Pettit, D., *Jr. l* 185 L
Peyton, B., *Jr. a* 332 C'y
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Phillips, L., *Jr. l* 11 C
Phraner, S. L., *Sr. a* 13 S W
Pierce, R. A., *Jr. l* 66 L
Pierce, V. U. D., *Jr. l* 141 C'y
Pilling, R. T., Jr., *Jr. l* 66 L
Pitcairn, G. L., *Sr. l* 132 L
PITNEY, J. O. H., *Trustee* Morristown, N. J.
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Plympton, G. F., *Jr. l* 162 C'y
Poe, E. A., Jr., *So. a* 81 H
Poland, R., *g* 112 G C
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Porter, A. R., *g* 21 A S
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Potter, D. B., *So. l* or *s* 56 C
Potter, M. G., *Fr. a* 54 H
Potter, W. C., *Fr. l* or *s* 116 B
Potts, E. L., *Sr. a* 13 S M R
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Preyer, A., *Fr. a* 7 W B
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Putnam, W. A., *Fr. l* or *s* 109 P
Pyle, G., *Fr. ce* 17 Edwards Pl.
Pyne, H. R., *g* Edgerstoune
PYNE, M. T., *Trustee* Drumthwacket
Pyne, P. R., Jr., *So. a* 33 C

Quay, M. S., *Fr. a* 80 P
Quier, H., *So. a* 33 P
Quinn, W. P., *Fr. l or s* Hill
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Ralston, J. V., *Fr. l* or *s* 7 E W

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Randolph, R. S. F., *Sr. l* 14 Aiken Ave.
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Rankin, S. B., Jr., *So. l* or *s* 83 P
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Read, C. C., *g* 93 G C
Read, F. A., Jr., *Fr. l* or *s* 72 L
Read, M. S., *Jr. a* 22 H
Reagan, F. P., *f* 1 A, G C
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Reed, L. C., *Fr. a* 7 W M W
Reed, N., *Sr. a* 31 L
Reed, R. B., *Sr. l* 1 E W
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Repass, W. C., *q* 47 Univ. Pl.
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Reynolds, S. C., *Sr. a* 308 H'm
Reynolds, S. H., Jr., *Sr. l* 52 '79 H
Reynolds, W. F., Jr., *Jr. a* 42 P
Reynolds, W. W., *So. l* or *s* 9 S R
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Rhodes, L. C., *So. l* or *s* 44 H
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Richards, J. VanK., *Jr. ce* 18 L
RICHARDSON, A. S., *Assistant* (38) 103 G C
Richardson, C. S., *So. a* 12 S W
RICHARDSON, E. C., *Librarian* (21) 220 Mercer St.
Richardson, F. S., *Fr. l* or *s* 12 S W
Richardson, H. J., *Sr. s* 91 H
Richmond, H. W., *g* 310 H S
Richardson, L. H., *q* 21 M D
Rickerson, W. C., *Fr. ce* 10 W B
Riddle, J. H., *g* 11 C, G C
Riedel, H. A., *Sr. l* 122 H
Riker, I., *Jr. a* 42 '79 H
Rinn, J. P., *Fr. l* or *s* 9 B
Ritchey, H. D., *Sr. a* 122 H
Ritter, J. B., *Sr. s* 20 M D
Ritter, R. H., *Jr. a* 4 E M W
ROBBINS, E. Y., *Professor* (22) 144 Library Pl.
Robbins, M. H., *Fr. l* or *s* 18 Madison St.
Roberts, F. C., Jr., *Sr. s* 31 '79 H
Roberts, W. vanB., *ee* 31 G C
Robertson, J. L., Jr., *So. l* or *s* 6 S E B
Robertson, M. T., *Jr. s* 12 W W
Robertson, W. P., *Jr. l* 3 E M W
Robins, T., Jr., *Fr. l* or *s* 31 Univ. Pl.
ROBINSON, C., *Ass't Professor* (32) 12 Boudinot St.
Robinson, H. R., *Sr. l* 63 B
Robinson, J. N., *Sr. l* 51 H
ROBINSON, P. E., *Ass't Professor* (29) 128 Broadmead
Robinson, S. S., *Sr. a* 19 S E
Roche, H. S., *So. a* 11 A, H
Rockey, K. H., *Sr. l* Hill
Rodgers, F. R., *So. a* 11 W W
Rodgers, J. O., *g* 28 Vandeventer Ave.
Rogers, A. A., *Fr. l* or *s* 9 S W B
Roll, R. G., *f* 52 G C
Roor, R. K., *Ass't Professor* (28) 31 Chambers St.
Rose, J. B., *Sr. l* 13 '79 H
Rosenberg, H., *So. l* or *s* 12 N E
Ross, D. N. C., *Jr. a* 32 P
Ross, J. S., *So. ce* 4 S W B
Rothensies, W. J., *So. a* 47 N. Tulane St.
Rothermel, J. G., *Fr. a* 43 Vandeventer Ave.
Rouse, R. G., *Fr. l* or *s* 307 H'm
Rue, F. J., III, *So. a* 35 L
Rukeyser, W. A., *Sr. s* 62 '79 H
Runk, G. S., Jr., *Sr. ce* 61 C
Runyon, P. M., *Jr. s* 5 M D

RUSSELL, A. D., *Trustee* Edgerstoune
Russell, A. D., Jr., *Sr. l* Edgerstoune
Russell, G. L., Jr., *Jr. a* 82 B
RUSSELL, H. N., *Professor* (25) 79 Alexander St.
Russell, J., Jr., *Sr. a* 4 S M R
Russell, R. B., Jr., *Fr. l* or *s* 8 N E
Ruth, G. B., *Fr. l* or *s* Hill
Rutherfurd, J., *Jr. a* 62 P
Rutledge, H. G., *Jr. ce* 3 E M W

Sackett, N. B., *Jr. s* 15 B
Sailer, R. C., *Fr. l* or *s* 2 D, H
Sampson, E., *g* 7 B, G C
Samson, H. G., *Fr. l* or *s* 81 B
Samstag, H. R., *Fr. l* or *s* 21 H
Sanders, S. G., *g* 11 B, G C
Savage, A. V., *Jr. a* 52 P
Savage, E. C., *Fr. a* 461 C'y
Savidge, J. F., *Fr. a* 11 Alexander St.
Saville, G. D., *Fr. ce* 14 Edwards Pl.
Saville, H. L., *g* 8 A, G C
Sawyers, F. L., *So. l* or *s* 14 B
Scarritt, A. D., *So. l* or *s* 5 S W B
Schaefer, B. K., *Fr. l* or *s* 81 P
Schaefer, J. L., Jr., *Fr. l* or *s* 81 P
Schaettler, F. V., *Jr. l* 14 A, H
Scheerer, P. R., *Jr. l* 322 C'y
Scheerer, W., Jr., *Jr. l* 322 C'y
Schmalz, J. S., *Fr. l* or *s* 32 Mercer St.
Schmertz, R. C., *Jr. l* 40 S E
Schmidt, G. S., Jr., *So. a* 361 C'y
Schmidt, S. S., *Fr. a* 263 C'y
Schmon, A. A., *Jr. a* 311 H'm
Schoen, W. H., Jr., *Jr. l* 12 '79 H
Schroeder, L. S., *Fr. l* or *s* 12 A, H
Schüllinger, R. N., *Jr. s* 38 S E
Schwabacher, H. S., *Sr. l* 351 C'y
Schwabacher, W. S., *So. a* 1 M D
Schweitzer, F., *f* 94 G C
Scobie, J. R., *So. l* or *s* 8 E B
SCOON, R. M., *Ass't Professor* (32) 19 Cleveland Lane
Scott, C. H., *g* 158 Nassau St.
Scott, C. MacC., *Jr. l* 82 Nassau St.
SCOTT, W. B., *Professor* (20) 158 Nassau St.
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Scudder, M., *Sr. a* 63 '79 H
Scudder, N. W., *Sr. a* 6 N W
Scudder, W. W., *Fr. a* 53 Univ. Pl.
Scully, J. T., *Jr. l* 90 Nassau St.
Sears, L. M., *So. a* A, E B
Seel, E. G., *g* 409 H S
Seibert, F. M., *f* 14 C, G C
Selby, A. N., *Sr. l* 91 H
Self, S. B., *Fr. l* or *s* 32 Vandeventer Ave.
Sellers, B. W., *Jr. a* 13 N M R
Sellers, L. W., *Sr. a* 3 M D
Selover, H. R., *So. l* or *s* 11 S E B
Semans, W. R., *Fr. l* or *s* 15 Edwards Pl.
Semmens, C. G., *Jr. a* 211 C'y
Senseman, J. S., *Fr. l* or *s* 47 Univ. Pl.
Serena, J. R., *Sr. l* 53 H
Severance, F. R., *g* 72 G C
Seymour, L. D., *Sr. l* 7 E B
Seymour, McN. V., Jr., *Fr. l* or *s* 32 Mercer St.
Shafer, S. R., *f* 62 G C
SHAFFER, E. L., *Assistant* (39) 6 B, G C
Shanley, B. M., *Jr. s* 102 H
Shanley, J. S., *Jr. l* 90 Nassau St.
Shanley, W. C., Jr., *Sr. s* 2 B
Shannon, R. W., *Fr. l* or *s* 14 U P
Sharp, E. C., *Sr. l* 9 E M W
Sharpless, S. J., *Fr. l* or *s* 88 Nassau St.
Shaw, A., Jr., *Fr. a* 411 C'y
Shea, C. B., *Jr. s* 341 C'y
Shea, E. L., *Sr. ce* 1 N E
SHEA, J. B., *Trustee* Pittsburgh, Pa.
Sheets, E. A., Jr., *Sr. l* 181 L
SHELDON, E. W., *Trustee* New York, N. Y.
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Shepherd, J. H., *Sr. l* 321 C'y
Sheppard, G. B., *Jr. s* 21 S E

Sherrerd, H. D. M., *Jr. a* 41 C
Sherrerd, S. D., *So. l* or *s* 9 W B
SHERWOOD, R. G., *Instructor* (34) 230 Nassau St.
Shipman, G. M., Jr., *Sr. s* 32 H
SHIPMAN, H. R., *Ass't Professor* (28) 27 Mercer St.
Shively, J. C., *g* 12 G C
Shoemaker, G. E., Jr., *Jr. s* 61 '79 H
Shoemaker, S. M., Jr., *Sr. a* 31 H
Shotwell, D. R., *So. l* or *s* 6 S D
SHULL, G. H., *Professor* (27) 60 Jefferson Rd.
Shultz, I. S., *g* 21 A S
Sidler, F. W., *Fr. l* or *s* 31 Univ. Pl.
Siedler, H. D., *Fr. a* 15 Edwards Pl.
Sienkiewicz, C., *Fr. l* or *s* 41 N E
SIGSBEE, R. A., *Assistant* (39) 36 Bank St.
Sikes, G. G., *Sr. a* 23 B
Silver, E. O., *Jr. l* 90 Nassau St.
SILVESTER, C. F., *Assistant* (33) 200 Nassau Hall
Simon, H. F., *Jr. l* 14 P
Simonin, E. C. B., *Jr. l* 142 H
Sinclair, D. C., *So. l* or *s* 5 A, C
SINCLAIR, W. J., *Instructor* (33) 51 Patton Ave.
Singleton, J. F., *Jr. l* 51 '79 H
Sipe, H. A., *So. ce* 83 B
Sitterly, B. W., *Jr. a* 16 N E
Skinner, G. D., *Fr. l* or *s* 7 S M R
Slee, J. N., *Sr. a* 40-50 P
Sloan, D. W., Jr., *Fr. l* or *s* 10 M D
Sloan, W. E., Jr., *Fr. l* or *s* 24 P
Sloane, C., *Fr. a* 84 P
Smith, C. M., III, *Fr. a* 15 Edwards Pl.
Smith, C. R., *Sr. l* 90 Nassau St.
Smith, C. R., *So. a* 9 N W
SMITH, D. P., *Ass't Professor* (31) 173 Nassau St.
SMITH, E. B., *Instructor* (37) 14 A, G C
Smith, G. W. H., *So. a* 112 L
Smith, H. H., *Jr. l* 3 B, H'm
Smith, H. M., *Fr. ce* Hill
SMITH, H. S. S., *Professor* (22) 58 Univ. Pl.
Smith, J. G., *Fr. a* 32 Vandeventer Ave.
Smith, M., *Sr. l* 90 Nassau St.
SMITH, N. KEMP, *Professor* (23) 106 Broadmead
Smith, O. H., *Jr. s* 82 Nassau St.
SMYTH, C. H., JR., *Professor* (23) 22 Morven St.
Smyth, C. P., *Sr. a* 308 H'm
Smyth, H. DeW., *So. a* 311 C'y
Sniffin, R. E., *Fr. a* 84 P
Snow, C. C., *So. ce* 1 E M W
Snowden, A. H., *Sr. l* 3 S E
Synder, D. L., *g* 57 B S
Snyder, F. F., *Fr. l* or *s* 10 Madison St.
Southworth, S. D., *So. a* 6 S W
Sowards, J. A., *Fr. a* 5 S D
SPAETH, J. D., *Professor* (26) 32 Edgehill St.
Sparks, H. DeB., *Jr. l* 32 B
SPAULDING, E. G., *Professor* (27) 8 Edgehill St.
Speers, J. M., Jr., *Sr. a* 11 S W
Speers, W. C., Jr., *q* 53 B
SPEIDEL, C. C., *Assistant* (38) 64 Wiggins St.
SPENCER, C. W., *Ass't Professor* (28) 114 Fitz Randolph Rd.
Spencer, H. R., *Jr. a* 232 C'y
Spencer, J. W., Jr., *Fr. l* or *s* 2 D, H
Spencer, M. A., *So. l* or *s* 20 S W
Sprague, I. A., Jr., *Fr. l* or *s* 33 L
Springer, F. E., *So. l* or *s* 60 P
Springs, E. W., *Jr. a* 25 C
Stafford, J. W., *So. l* or *s* 1 U P
Starr, I., Jr., *Sr. s* 222 C'y
Starr, L. E., *Fr. ce* 56 Bayard Lane
Starr, W. K., *Sr. ce* 56 Bayard Lane
Stauffer, C. R., *Sr. a* 262 C'y
Steele, H. M., Jr., *So. l* or *s* A, B
Stephenson, R. H., *Fr. l* or *s* 15 Univ. Pl.
Stericker, G. B., *Jr. l* 306 H'm
STEVENS, E. A., *Instructor* (34) 68 Nassau St.
Stevens, J. H., *Jr. ce* 6 W M W

Stevens, M. H., *Sr. s* 3 S M R
Stevenson, S. R., *So. l* or *s* 83 Mercer St.
Stewart, C. I., *So. l* or *s* 16 Bank St.
STEWART, G. B., *Trustee* Auburn, N. Y.
Stewart, G. R., Jr., *Jr. a* 22 B
STEWART, J. A., *Trustee* New York, N. Y.
Stewart, J. H., *So. l* or *s* E, E B
Stewart, J. K., *g* 31 A S
Stewart, J. Q., *g* 11 A, G C
STEWART, W., *Assoc. Secretary, Philadelphian Society* (333) Murray-Dodge
Stewart, W. T., *So. a* 8 A, H
Stickney, T. B., *So. l* or *s* Hill
Stockton, J. R., *Sr. l* 3 N D
Stockton, W. T., *Jr. l* 51 '79 H
Stoeltzing, R. W., *Jr. a* 143 C'y
Stoetzer, J. J. B., *Fr. l* or *s* 14 Edwards Pl.
Stoever, J. L., *g* G C
Stoltze, J. R., *Jr. l* 64 H
STONE, D. L., *Instructor* (36) 14 B, G C
Stone, W. E., Jr., *Fr. a* 15 Edwards Pl.
Strater, E. LaN., *Jr. l* 23 C
Strater, H. H., *Fr. l* or *s* 3 B, H
Straw, H. F., Jr., *Jr. l* 115 B
Street, D. MacQ., *Fr. l* or *s* 15 Univ. Pl.
Streetman, S., Jr., *So. l* or *s* 73 P
Streichenberg, C. F. A., *Fr. l* or *s* 31 Univ. Pl.
Strong, B., III, *Fr. a* 133 L
Strong, L. B., *Fr. a* 19 Edwards Pl.
STUART, D. C., *Ass't Professor* (31) The Western Way
STUART, D. R., *Professor* (23) 101 Broadmead
Studdiford, W. E., Jr., *Fr. l* or *s* 36 L
Sturges, P. M., *Jr. a* 42 '79 H
Sulzberger, D. H., *So. l* or *s* 10 E M W
Sutphen, J. S., Jr., *Sr. l* 138 Nassau St.
Swatland, D. C., *Sr. a* 2 E M W
Sweet, L., *Sr. a* 64 Nassau St.
Swetland, M. W., *g* Hightstown, N. J.
Swift, E. H., *f* 81 G C
Syme, A. M. Q., *So. a* 64 Nassau St.
Symons, N. S., *Fr. a* 31 Univ. Pl.

Taggart, E. B., *Fr. l* or *s* 8 Dickinson St.
Talbert, W. B., Jr., *Fr. l* or *s* 12 B
Talley, A. W., *Sr. a* 82 H
Talmage, T. H., *Jr. l* 15 L P
Tappen, C. M., *Sr. a* 36 S E
Taylor, A. W. H., *Fr. a* 2 U P
Taylor, E., Jr., *Jr. a* 94 H
TAYLOR, H. S., *Ass't Professor* (32) 43 G C
Taylor, I. H., *Fr. l* or *s* 3 W B
Taylor, J. C., Jr., *So. l* or *s* 18 M D
Taylor, J. H. L., *Fr. l* or *s* 46 L
Taylor, J. I., *Fr. a* 34 N E
Taylor, M. McF., *Jr. l* 41 C
Taylor, R. S., *So. l* or *s* 102 B
Taylor, W., Jr., *Fr. a* 10 A, H
TEAGUE, M. C., *Assistant* (39) 23 G C
Teener, J. W., *g* 33 B S
Teich, J., *Fr. l* or *s* Trenton, N. J.
Telfer, R. S., *g* 78 G C
Ten Broeck, W. D., *So. l* or *s* 11 W B
Ten Eyck, C. B., *Jr. a* 52 H
Teng, S. P., *So. l* or *s* 19 N W
Tenison, W. H., *Jr. l* 12 E B
Terrell, L., *Fr. a* 3 B, H
Terry, A., Jr., *Fr. l* or *s* 104 P
THAYER, H. W., *Ass't Professor* (29) 12 Nassau St.
Thomas, G. P., *Fr. l* or *s* 15 Edwards Pl.
Thomas, H. McC., *Sr. l* 64 Nassau St.
Thomas, L. J., *g* 14 D, G C
Thomas, W. C., *Fr. ce* 16 S E
Thomas, W. J., *So. l* or *s* 61 L
Thompson, G. S., *So. l* or *s* 34 C
THOMPSON, H. B., *Trustee* Greenville, Del.
Thompson, H. C., *Fr. a* 141 H

THOMPSON, H. D., *Professor* (21) Absent on leave
Thompson, K. I., *So. l* or *s* 22 '79 H
Thompson, R. L., Jr., *So. l* or *s* 34 '79 H
Thomson, J. W., Jr., *Sr. s* 93 H
Thorington, R. W., *Fr. l* or *s* 108 P
Tibbott, D. W., *Jr. l* 41 P
Tickner, R., *Jr. l* 96 B
Timmerman, L. F., Jr., *Fr. ce* 15 Dickinson St.
Tippetts, C. S., *Sr. l* 34 U
Todd, J. R., *Fr. a* 42 Wiggins St.
Toland, E. D., *g* 3 U P
Toland, O. J., *Fr. l* or *s* 104 P
Tomcsanyi, A., *g* 208 H S
Tomlinson, N. B., *Sr. l* 15 E W
Towers, C. D., *Sr. l* 11 N D
Townley, W. R., *Fr. l* or *s* 10 N W
Townsend, C. H., *Fr. l* or *s* Hill
Tracy, F. L., *Fr. l* or *s* 13 M D
Traylor, M. G., *Sr. l* 312 C'y
Trostle, J. C., *Fr. l* or *s* 28 S E
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Tuers, R. V., *g* 41 Univ. Pl.
Turner, C. F., *So. a* 3 C, H'm
Turner, D. G., *Sr. l* 90 Nassau St.
Turrentine, M. L., *Jr. a* 15 N W
Twaddell, J. P., *Sr. l* 132 L
Twinem, P. DeW., *g* 402 H S
Twitchell, P. E., *Sr. l* 41 B
Twyeffort, H. E., *Jr. l* 103 P
Tyler, A. B., *So. l* or *s* 82 P
TYLER, M. W., *Instructor* (34) 26 Prospect Ave.

Uebelacker, A. A., *Sr. s* 1 S E B
Underwood, C. A., *So. a* 8 E B
Upshaw, R. W., Jr., *Fr. l* or *s* 8 U P
Urmy, H. S., *Fr. l* or *s* 7 S W

Vail, H. L., *Jr. a* 15 L
Vance, R. R., *Fr. ce* 14 Edwards Pl.
Van Cleve, B. M., Jr., *Jr. s* 2 A, H
VAN DEN VEN, P. J. J., *Lecturer* (33) 36 Vandeventer Ave.
Vanderhoef, H. B., Jr., *Sr. ce* 331 C'y
van der Voort, H. F., Jr., *Sr. l* 31 B
Van Deventer, P., *Fr. l* or *s* 11 N M R
van Doren, H. S., *Sr. s* 16 Bank St.
Van Dusen, H. P., *Fr. a* 21 C
Van Dyck, D. B., *g* 41 A S
Van Dyke, E. N., *Sr. s* 17 S W
Van Dyke, M., *Sr. a* 124 Moore St.
VAN DYKE, P., *Professor* (22) Pyne Tower, G C
Van Dyke, W. D., Jr., *Jr. a* 171 L
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Van Horn, A., Jr., *So. l* or *s* 31 P
VAN INGEN, G., *Ass't Professor* (30) 115 Broadmead
Van Meter, L. W., *Fr. a* 18 N E
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VAN RENSSELAER, A., *Trustee* Philadelphia, Pa.
Van Tuyl, R. W., *So. a* 7 A, H
Van Wart, W. H., *So. ce* 34 C
Van Wyck, A., *Fr. a* Hill
Vaughn, G. A., Jr., *Fr. ce* 13 P
VEBLEN, O., *Professor* (25) 58 Battle Rd.
Vensel, H. W., *Jr. a* 44 C
Vermeule, C. C., Jr., *Jr. ce* 71 H
Verner, E. M., *Fr. ce* 62 Wiggins St.
Vest, G. G., *Jr. a* 82 Nassau St.
Vickery, J. C., *Sr. s* 5 N D
Vinacke, H. M., *f* 15 A, G C
Vogt, E. L., *So. a* 12 H
Vollrath, H. B., *Jr. l* 212 C'y
von Hasslacher, H., *So l* or *s* 9 A, H
Voorhis, J. W., *Jr. a* 20 B S
VREELAND, W. U., *Professor* (23) 180 Mercer St.

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Wadsworth, J. V., *Sr. s* 34 B
Wair, D., *So. l* or *s* 8 C, H
Walcott, B. S., *Jr. s* 241 C'y
Wales, K. S., *Jr. l* 3 S R
Wall, E. B., *Sr. l* 31 H
Wallace, G. C., Jr., *Sr. ce* 26 N E
Wallace, C. K., *So. l* or *s* 19 M D
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Wallis, K. C., *Fr. a* 39 Univ. Pl.
Walter, P. C., *Fr. l* or *s* 39 Univ. Pl.
Walters, S. F. D., *Fr. a* 46 Wiggins St.
Walton, L. B., *Sr. a* 5 A, H
Walton, M. W. W., *Fr. l* or *s* 1 U P
Wang, K. P., *q* 14 Park Pl.
Warburton, F. R., *So. l* or *s* 8 S R
Warburton, W. J., *So. l* or *s* 16 W W
Ward, C. A., *So. l* or *s* 6 S W B
Ward, G., *Sr. l* 52 '79 H
Ward, M., *Jr. a* 1 L P
Warden, H. W., Jr., *So. ce* 43 H
Warfield, J. D., Jr., *Jr. l* 36 P
Warren, F. D., Jr., *Fr. a* 34 L
WARREN, H. C., *Professor* (22) 133 Library Pl.
Warren, H. M., *Fr. l* or *s* 161 C'y
Warren, J. S., *Jr. l* 16 C
Washburn, R. H., *Fr. l* or *s* 47 Univ. Pl.
Waterbury, S. W., *Fr. l* or *s* 54 H
Waterman, A. T., *f* 148 G C
Waters, W. P., *Fr. a* 72 B
Watt, D. B., *Sr. a* 64 Nassau St.
Watt, H. R., *Jr. ce* 143 L
Weber, S. H., *g* 2 B, G C
Webster, S. L., *Fr. l* or *s* 53 Univ. Pl.
WEDDERBURN, J. H. M., *Ass't Professor* (30) Absent on leave
Weidman, W. M., *Jr. a* 39 U
Weil, A. L., Jr., *Jr. l* 104 H
Weiskotten, H. T., *g* 74 G C
Weller, D. McE., *So. l* or *s* 52 L
Welsh, D. B., *g* 25 Bank St.
WERTENBAKER, T. J., *Ass't Professor* (32) 58 Univ. Pl.
WEST, A. F., *Dean of the Graduate School* (21) Wyman House, G C
West, H. D., *q* Kingston, N. J.
West, J. C., *Fr. a* 20 N W
West, W. A., *Sr. a* 11 N W
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Westcott, J. H., Jr., *So. a* 34 P
WESTER, R. A., *Assistant* (39) 35 Park Pl.
Wetherbee, R. N., *Jr. l* 2 B, C
Wheeler, H. L., Jr., *Fr. l* or *s* 8 S M R
Whipple, T. K., *f* 92 G C
White, C. T., *So. a* 312 H'm
White, H. A., *Jr. l* 64 H
White, W., *Sr. s* 231 C'y
Whitehouse, F. S., *Jr. ce* 14 '79 H
Whitlock, F. B., *Jr. l* 123 H
Whitman, R. C., *Fr. l* or *s* 11 Bank St.
WHITNEY, G. T., *Ass't Professor* (30) 27 William St.
Whitney, W. B., Jr., *Fr. ce* 10 S D
Whittingham, A. M., *Fr. ce* Hill
Wickes, J., *Jr. a* 9 E B
Widenmann, H. A. K., *So. l* or *s* 13 E W
Wiegand, C. O., *q* 6 U P
Wiese, A., *Sr. s* 11 S M R
Wiese, M. V., *q* 55 C
Wight, E. VanD., Jr., *Fr. a* 42 N E
Wilbur, F. L., *Fr. l* or *s* 19 Univ. Pl.
Willcox, D., *ee* Lawrenceville, N. J.
Wille, F. B., *So. l* or *s* 44 H
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